

Introduction

The long-awaited Magento 2 certification exams are now appearing. We are excited to prepare for them ourselves. In doing so, we want to help others in the community by making public this study guide.

Our guide is an annotated version of Magento's study guide for this test: http://multichannelmerchant.com/blog/omnichannel-vs-multichannel-different/

We took their questions and study topics and are providing our own answers. If you have suggestions, updates or corrections, please feel free to email them to us at: joseph@swiftotter.com

We hope that you take the time to read through this document.

Additionally, learn the frontend and backend of Magento 2. This will give context to our answers and provide a way for you to become more tuned to this powerful platform.

Here is a Magento 2 CE Demo Store access: https://www.nublue.co.uk/
blog/magento-2-0-demo-admin-access-sample-data/

We wish you good success with your exam.

SwiftOtter Solutions

PS: Please send an email to joseph@swiftotter.com if this helped you pass the test.

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Practice Test

Our practice test has been available since August 8, 2017. Since the launch, we have had over 90 responses. This is giving insight into the areas that are the weakest, and thus, it is good to ensure that more study is completed. The subjects below relate to questions with a <50% pass rate.

- Native vs Custom Functionality: there are some things in Magento 2 that seem like they should be native, but are not. Ensure you are very familiar with Store Configuration and the frontend.
- APIs: what authentication does Magento use for APIs? What are the basics of why APIs exist? What purposes do they serve?
- Websites / stores / store views: the relationship of one to another
 When are multiple store views required? When are multiple
 websites required? What configuration options exist for each?



1.1 ONLINE MERCHANDISING:

Marketing strategies:

- Omnichannel: available in literally every touchpoint that a
 customer wants to interact with the brand. This likely includes a
 brick-and-mortar presence, website, social, phone and more. This
 also includes the notion of a customer being able to easily switch
 channels through their buying process.
- Multichannel: non-integrated touch points. A customer cannot switch channels through the buying process. This more has to do with silos of communication than anything else. (reference: http://multichannel-multichannel-different/)
- Affiliate marketing: using incentives such as cashback and other rewards to encourage people to recommend your brand.
- Social marketing: the use of social media (Facebook, Twitter, Instagram, Pinterest, LinkedIn, etc) to spread the word about your company and interact with customers.
- Email marketing: the use of email to continue brand awareness. This remains as one of the most effective means of communication.
- Word of mouth marketing: the most effective marketing strategy. A
 customer loves your brand so much that they tell others about it.

Basic steps of setting up a new online store:

- Strategy (90%): who is your competition. and what will set you apart? What are you offering that your competitors will not offer?
 Why do you want to get into this business?
- Technology (10%):
 - Determining the platform to start with. If this is a small company with limited funds, Magento is likely not the best option. A SaaS platform is likely to be the best option. It has a low cost of entry (monthly fees) and has many features.
 - Hosting: We like MageMojo, but there is a plethora of hosting options on the market. It is good to talk with the hosting company to determine the server specifications necessary to find the right balance between computing power and paying too much.
 - Deployment: getting the site going. Launching a new site is much easier than migrating existing websites. You just have to point the domain name at the store, remove any temporary protections (such as a password entry present during development), and you are good to go.
 - Maintenance: the basic level of maintenance (from a developer's point of view) includes patching. From a store owner's view, they need to keep the products up to date, fulfill orders, and follow their strategy for growing the company.

Search Strategies

- Proceeding under the basis of this being site search.
- Keyword search:
 - Customers need to find things on your website. Hopefully
 the search bar is very visible. They will type in a query.
 Removing the cruft ("and," "the," etc.), you are left with likely
 the keywords of their search. These are the important words
 used to find products on your website.
- · Auto-suggest:
 - Based on the keywords and phrases used, smart search
 engines will be able to find other keywords and phrases that
 are similar to the one that the customer entered.
 - This will help guide them to the answer that they are looking for.
- Guided Navigation:
 - This implies helping the customer reach the decision you want them to reach (likely resulting in a purchase).
 - This technology is still up and coming and relatively expensive to do right.

Upselling, cross-selling in ecommerce

- Upsell:
 - Visible on a product page.

This tells customers of more expensive or (hopefully)
 alternative choices to what they are looking at. This provides
 awareness of other options on your website.

Cross-selling:

- After the customer has added the product to the cart, we
 do not want to show choices to what they have purchased.
 Doing so might lead them to reconsider their options.
- Cross-selling involves showing the customer complementary products: ones that will make using the original product easier or more satisfying.

SEO in ecommerce

- Far beyond the scope of this work, but, here's the summary.
- Quality URL structure:
 - Don't use numbers or IDs in the structure. Instead, use words.
 Not too many, but 75 characters or so in the url.
- Good information architecture:
 - This describes how your website is constructed.
 - What are the paths to the categories? How do they relate to the products? Is there any correlation? What about breadcrumbs? How do you expect people to flow through your website?
 - Are there well-organized sections of content?

- Duplicate content:
 - Using rel="canonical" to avoid duplicate content flags.
 - The canonical tag tells search engines which single URL is the source for that product.
 - Common within Magento will be a product in multiple categories, resulting in the same product page accessible via several URL paths (one for each category). If you don't tell Google which URL is the "master" (vs. the duplicates), Google will pick one.
 - Ensuring that those canonical links exist.
- Sitemap
 - Helps search engines find the pages on your website.
- Other sources:
 - https://blog.kissmetrics.com/seo-for-ecommerce-websites/

1.2 SECURITY:

- User data security standards in different markets:
 - USA is one of the most lenient in the world.
 - EU data privacy states that you cannot store most any customer data outside of the EU. Used to have safe harbor agreement in place, but that no longer exists.
 - Canada just introduced very strict spam laws.

- PCI standards and processes:
 - PCI SAQ (self-assessment questionnaire): a detailed piece
 of information to assess whether you and your website are
 following best security practices.
 - Cardholder data must not ever be stored or transmitted unencrypted.
 - Unencrypted cardholder data must not be seen by unqualified individuals.
 - Encrypted cardholder data is still subject to safety measures.
 - Reference:
 - https://www.pcicomplianceguide.org/faq/
 - https://www.pcicomplianceguide.org/pci-saq-3-1-ecommerce-options-explained/
- PA-DSS / PCI-DSS rules and practices:
 - https://securityintelligence.com/difference-pci-dss-pa-dsspayment-application-vendor-thinkappsec/
 - Every organization that handles credit cards needs to comply with PCI DSS (Payment Card Industry Data Security Standard).
 - Build and maintain a secure network.
 - Protect cardholder data.
 - Implement strong access control measures.

- Ensure the maintenance of information security policies.
- Vendors that make and sell payment applications need to meet PA DSS (Payment Application Data Security Standard).
- SSL Usage in ecommerce
 - SSL when transmitting cardholder data is a must.
 - Preferably use TLS 1.2 but limited due to older browsers that no longer support that.
 - Browser vendors are pretty much forcing all sites to switch to https.

1.3 USER EXPERIENCE:

- Usability principles and issues in ecommerce
 - Beyond the scope of this study guide. Excellent resources:
 - https://baymard.com/research
 - https://www.nngroup.com/articles/e-commerce-usability/
 - Interface must be easy and quick to understand.
 - Best is that it doesn't deviate too much from other websites / industry leaders such as Amazon.
- Building a good user experience in ecommerce best practices
 - Maximum of 5 options

- Important to give the user context of their position on the website
- Clear header navigation (with possible drop-down menus)
- Breadcrumbs
- Good detail in footer

1.4 LAWS AND REGULATIONS:

- Disability compliance issues
 - http://www.employerlawreport.com/2015/12/articles/eeo/ website-accessibility-regulations-delayed-until-2018-butbusinesses-should-not-table-the-issue-until-then/
 - Serious issue with potential litigation.
 - Websites will need to be "handicap accessible" by April 2018.
- Privacy
 - California and Nevada require a privacy policy.
 - Pennsylvania and Nebraska say it's wrong to make false or misleading statements in a privacy policy.

1.5 SYSTEM DEVELOPMENT:

- Agile, SCRUM, and Waterfall
 - Waterfall: working toward a once-in-a-long time release schedule.

- Agile and Scrum are very similar.
 - Agile is a complete software development cycle. Usually focuses on smaller increments.
 - Scrum is based around a sprint (a set period of time for work to get done). Commitments are made to ensure that the work is completed.
 - https://stackoverflow.com/questions/11469358/what-is-thedifference-between-scrum-and-agile-development
- Basic terms and core constituents of system development life cycles:
 - https://stackify.com/what-is-sdlc/
 - Identify Current Problems: understanding problems.
 Customers often do this on their own, although it is good to get a second opinion.
 - Plan: developing a roadmap for getting the problem solved.
 - Design: architecting the solution: what pieces need to be built.
 - Build: writing the code to solve this problem.
 - Test: assigning to QA to ensures that everything works as expected.
 - · Deploy: deploying the update.
 - Maintain: starting the cycle over again.

1.6 OMNICHANNEL:

- Complex inventory management:
 - Means maintaining inventory in multiple locations. This could take into account warehousing, retail locations and possibly drop-shipped inventory quantities.
 - How to handle out-of-stock merchandise:
 - Online: can drop-ship from suppliers or distributors.
 - Retail / brick-and-mortar: endless aisle systems allow customers to order items that are out of stock. This will not eliminate the problem of someone seeing that a product is not available anymore and leaving, but it might help in some situations.
- Drop ship:
 - When the manufacturer or another company ships the product. This can reduce warehousing needs but will significantly eat into profits.
- Buy online / ship to store:
 - The latest trend. This can be an effective means of keeping customers in the store. While it might not save the company any money (as they still often have to ship it), they can expect more people to make purchases while in the store. Walmart has seen this enough that they have offered steep discounts on certain Site-To-Store purchases.

1.7 DATA ANALYTICS AND TESTING:

- Google Universal Analytics:
 - Probably the most powerful web analytics platform on the internet (free). This platform helps track and correlate much information about visitors on the website and their purchases.

A/B Testing:

- Shows customers the A (original) or B (updated) version. This
 is good to see what users prefer more: which performs better
 and achieves more goal completions.
- The next step is Multivariate testing. This can pit multiple versions against each other to find a winning combination.

· Optimization:

- The process of continually editing and working with the website to increase sales.
- Personalization:
 - Ways to make the website be unique to a user. This could be things like using the customer's name, showing them products that they are interested in (based on other purchases), or adjusting sales emails to how they have responded to previous emails.

1.8 TAXES:

VAT:

- Value Added Tax
- https://en.wikipedia.org/wiki/Value-added_tax
- Assessed at different times in the production process.
- Sales tax is assessed on the final value of a sale.
- Digital VAT:
 - https://www.gov.uk/government/publications/vat-supplyingdigital-services-to-private-consumers/vat-businessessupplying-digital-services-to-private-consumers#define-digital
 - Tax assessed on software as a service sales.
- In-state and out-of-state:
 - In-state: selling from one state in the US (such as KS) to someone in the same state.
 - Out-of-state: selling from one state in the US (such as KS) to someone outside of the state, such as MO.
- Cross-border:
 - Selling from one country into another.

What is the difference between omnichannel and multichannel retailing?

 Multichannel means that each channel of interacting with a company is siloed. There is little organization and universal strategy. Seems to be mostly an anti-pattern. Omnichannel is where all lines of access to the company are coordinated. Similar teams. The goal is to reduce the friction across the experiences and make it as seamless as possible.

How can you set up a product catalog for best search results, taking into account issues of duplicate content, meta content, meta title, keyword search terms in product description, attribute weight, and so on?

- Excellent information about ecommerce SEO:
 - https://blog.kissmetrics.com/seo-for-ecommerce-websites/
 - http://searchengineland.com/best-practices-in-e-commerceseo-176921
 - https://moz.com/blog/category/e-commerce
- Key is to think about what people are looking for and use those words. It is far more involved than this, as talking to customers, research in Google Analytics, and watching results over time will make the difference.
- Duplicate content is bad. Thus, the rel="canonical" meta tag is very important to tell Google what is the "master" page. Magento by default brings in this issue with products: products are viewable just under the root domain (https://example.com/product-name) and also viewable under each category (https://example.com/category-name/product-name). Ensuring that the rel="canonical" is on will make that tag point to the product under the root domain.

- Meta content (meta description?): is a shortened description that is
 often used by Google under the title of the page (the title tag). This
 is very important that there aren't duplicate descriptions as these
 can be customized to increase a customer's likelihood of clicking
 your url.
- Keyword search terms in product description: again, what are
 people searching for to land on your product? These words need
 to be included in the product description. Not as a "keyword list" at
 the end (which Google won't like), but included in human readable
 sentences and thoughts that make sense.
- In the baked-in catalog search, the attribute weight determines how likely Magento will return a match from that attribute.

What is a "canonical link element"?

- rel="canonical" href="http://example.com/wordpress/seo-plugin/">
- https://yoast.com/rel-canonical/
- This link tag tells search engines what is the original page. This
 is helpful to clean up duplicate content. Each of those duplicates
 should then point back to one page, and the page authority will be
 focused on that one spot.

What "social merchandising" techniques and tools are used in ecommerce?

 The features or tools that encourage people to interact with your website.

- Could be a wishlist or sharing buttons.
- This also would include tailoring related products or suggestions to that person.
- Reviews are means of attracting social proof, which is very effective in both generating more content for a website as well as encouraging other customers to purchase.

When is SSL required when transacting data online?

- SSL is required for any time credit card information is transferred from a customer's computer.
- However, browsers are making SSL required. For example, a
 message now appears when you log into a website (entering in
 your password), and you are not on an SSL connection.

What is PA-DSS? When should PA-DSS be applied?

- https://securityintelligence.com/difference-pci-dss-pa-dss-payment-application-vendor-thinkappsec/
- It helps achieve PCI-DSS compliance. A good overview for this is the PCI Awareness Training.
- All organizations that handle cardholder data must be PCI-DSS compliant.
- PA-DSS is validating compliance of a system or a program. PCI-DSS is the validation of an organization (meaning the people, systems and hardware).

What are typical omnichannel challenges?

- https://www.entrepreneur.com/article/292792
- How to allow a customer to switch channels seamlessly?
- Personalization of the experience to the customer depending on what channel they are a part of.
- Real-time inventory tracking.

What is the process for getting a site certified as PCI compliant?

- https://www.pcicomplianceguide.org/the-pci-basicsquick-guidewhat-do-small-merchants-need-to-do-to-achieve-pci-compliance/
- Determine merchant level.
 - Visa: https://usa.visa.com/support/small-business/security-compliance.html
 - MasterCard: https://www.mastercard.us/en-us/merchants/
 safety-security/security-recommendations/merchants-need-to-know.html
 - This determines whether a SAQ will work or if you have to have an on-site assessor.
- · Determine the SAQ.
- Complete the SAQ.

What are best practices for protecting ecommerce user data?

- Don't store cardholder or other sensitive data. It is good to see the "saved credit card" option gone with Magento 2.
- · Be careful with who handles cardholder data.
- Use strong hashing for passwords. This is another benefit of Magento 2.
- Use https on the website to protect cardholder and other data.

What are the best usability practices when building an online catalog and checkout system?

- Beyond the scope of this article.
 - Excellent resource: https://baymard.com/checkout-usability
- As alluded to above:
 - Don't stray too much from what the user considers the norm.
 This can vary per demographic or age group.
- Keep things simple:
 - < 5 choices</p>
 - Clear calls to action (such as Add to Cart or Checkout)
 - Enough whitespace to set apart important elements.
- Keep the cart link obvious, don't assume that the customer will always go straight to checkout.
- Ensure the user has context for where they are on the website

What are the main characteristics of Agile and Waterfall development methodologies?

- Agile is iterative; Waterfall is a longer period of work with less opportunities for feedback.
- Waterfall was more beneficial in the days of software distribution on CD-ROM. You needed to completely finalize the software before shipping it as delivering bugs to customers was a very bad thing. Also, it needed to have plenty of upgrades for the user to feel it was worthwhile to purchase and upgrade.
- Agile fits better with other delivery means (automatic).
- Because one can deploy often, it gives much faster feedback, and the product doesn't have to be polished. Instead of one release a year, you can release weekly or even daily.

What are SMART requirements?

https://en.wikipedia.org/wiki/SMART_criteria

The idea behind project management.

- Specific: the task must be defined.
- Manageable: the task must not be of gargantuan proportions.
- Assignable: the task must be able to be given to someone(s).
- Relevant: the task must be able to be completed given current bandwidth.
- Time-related: the task must be able to be completed within a certain time.

What are the requirements of the EU "cookie law"?

- https://www.cookielaw.org/the-cookie-law/
- Required after May 2011 (though, to my understanding, it is very poorly enforced).
- It requires that a website give customers the option to opt out of cookies being set on their computer.

Requires that a website:

- tells visitors that the website uses cookies.
- explains what the cookies do
- gets their approval for storing cookies on their computer.
- (exceptions do apply)
- More information

References

- Magento Community Edition and Enterprise Edition User Guides,
 Magento Help: Support, Documentation, and Forum
- Commerce Resource Library (eBooks)
- E-Commerce Search Strategies: How Faceted Navigation and Apache Solr/Lucene Open Source Search Help Buyers Find What They Need (white paper)
- Magento U: Requirements Gathering for Successful Magento
 Implementations



2.1 BASIC CONCEPTS: MVC, TEMPLATES AND LAYOUTS, OPEN SOURCE

Architecture in Magento 2: What is Magento architecture based on, and how does Magento architecture affect the Magento 2 application?

- Magento is built on the MVC idea. Model / View / Controller.
 - Model is the data. Ultimately, the model concept goes way deeper than this into data storage and retrieval.
 - View is how the data is presented. This is the HTML and CSS side.
 - Controller is the link between the model (data) and the view.
 This provides the business logic for what data to show where.

Database sharding and Varnish caching

- (EE only) Sharding is splitting up a database into multiple "shards" (think of a broken glass).
 - This allows for performance gains and scalability in different configurations. The database can be split into different segments: checkout orders and products.
 - This also allows data to be backed up, data analysis without affecting the master database, and scalability.
 - More information: http://devdocs.magento.com/guides/v2.0/
 config-guide/multi-master/multi-master.html
- Varnish caching

- Varnish is a reverse-proxy caching engine.
- It sits in front of the web server (apache or nginx) and if a request is cached, it will return that. This results in a very low latency caching engine. Response times are often sub 200ms.

Templates and layouts in Magento 2: Basic responsibilities and roles when executing Magento code

- Templates contain the HTML; layouts are XML files that contain instructions for what to show, where, and details for how to show it.
- The layout XML files are merged together to form one set of instructions per page. This gives tremendous capabilities for customizing a website.
- Templates are PHP and HTML. They accept PHP objects and other data and render them as HTML.

Extending Magento 2 functionality with a code change or enabling an extension—basic concepts and process steps

- To extend Magento, the first thing is to determine what needs to be changed. This specification is signed off by the customer and work can begin.
- It is important that modules don't get too big. This makes them difficult to manage and maintain. Follow the Single Responsibility Principle.

- After registration.php and etc/module.xml are present, you can run bin/magento module:enable ((MODULE NAME)).
- This turns the module on, and development can continue.
- You will likely have to run bin/magento setup:upgrade and bin/ magento setup:di:compile.
- Once the module is complete, you would commit it, have it peer-reviewed, and ensure that it passes QA and then deploy to production.

Configuring site design using options found in the admin under Content > Design > Configuration

- This was a much improved area in Magento 1 over Magento 2. The design configuration is found in Content > Design > Configuration.
- Select the store / theme combination that you wish to work with,
 and click Edit.
- This pretty much replaces the System > Configuration > Design area. It is specific to the theme, and makes much more sense to place in this location.
- Adding configuration to this area is still not the easiest.

Installing and enabling/disabling Magento 2 extensions

 It is very important to first review the code (line-by-line) of each extension installed. I'm always amazed at how many security vulnerabilities and sending requests back to the module developer's servers (phoning home) that I find.

- Installing the module is very easy (instructions for a one-off Magento instance not connected to builds or anything):
 - SSH into the server
 - Copy the new module files
 - bin/magento module:enable ((MODULE NAME)) omitting this will enable all modules
 - bin/magento setup:upgrade
 - bin/magento setup:di:compile
 - bin/magento setup:static-content:deploy
 - · bin/magento cache:clean

2.2 MAGENTO APIS AND THIRD-PARTY INTEGRATION

Types of API

- REST and SOAP
- Rest is URL and HTTP code based. SOAP is XML based.

API authentication

- http://devdocs.magento.com/guides/v2.0/get-started/bk-getstarted-api.html
- OAuth 1.0a (why not 2?)
- · Mobile applications can use tokens
- Administrators and customers can use login credentials (which are converted into a token)

API users

 These are the same as a user if you are using tokenbased authentication.

Differences between Magento 1 and Magento 2 integration options

 Magento 2 is much more streamlined. With Magento 1, you worked with a unique set of users for the API. There were also unique permissions with Magento 1 that are now no longer apart of 2.

Third-party integration with Magento 2 CE and EE

- Enterprise has the following additional API endpoints:
 - CustomerBalance
 - GiftCardAccount
 - GiftRegistry
 - GiftWrapping
 - Reward
 - RMA
- http://devdocs.magento.com/guides/v2.0/rest/list.html

2.3 MAGENTO WEBSITES, STORES, AND STORE VIEWS

Website (store_website table), store (store_group table), and store view (store table) configuration

- There are three layers of customization for configuration, categories, products, and CMS features. Many Magento installations have just one website, store, and store view.
 - Website: represents a unique domain name. This is the "parent" of the whole system. It allows you to maintain different lists of customers and different product pricing. Products are assigned to a website.
 - Store: represents groupings of store views. This is not used much in products or categories.
 - Store view: often a different language but could be a different store. This is used to configure pricing, attributes, and more for categories and products.

The application of scope to websites, stores, and store views

- Say you have three brands: Widgets, Headphones, and Stuffed
 Animals available in English and Spanish. You could put all three
 on unique websites; you can switch a store on a website; and you
 can also switch the language on a website.
- Websites and store groups are similar in functionality. They give flexibility for how one wants to set up a site.

- Store > Configuration is specified in either the global, website or store view scope.
- Product details are specified in the global, website or store view scope.
- Websites: are often a unique domain name or a brand. Payment and shipping methods are determined in this scope.
- Store (groups) can be also a unique domain name or brand but they fit inside of a website. Root categories are associated with a store. No store configuration values are set on this level.
- Store (views) is what your customers browse. This shows products
 and is themed. Often there are switchers to change language
 (from English to Spanish). There will also be links to go to the
 Widgets' or Headphones' websites. It is important to keep cookies
 in consideration if you want products to be shoppable across all
 categories. Most store configuration values specified at this level
 are related to names and very few features can be enabled.

Display of product catalogs in websites, stores, and store views

- If a Magento installation is NOT in single-store mode (Stores > Configuration > General > Single-Store Mode):
 - Products are assigned to a website. If a product is not assigned to a website, it will not be visible on the website.
 - You can also change the visibility and status for a store view to affect whether a product is visible for a store view or not.

 You can change title, description, etc. on a website or store view basis (not for a store).

Administration of websites, stores, and store views

Found in Stores > All Stores area.

Localization, taxes and pricing in websites, stores and store views

 Again, these are customized in websites and store views (but not for a store).

Product attribute scope

 Applies to either global (everything) or a store view. If it is global, store view will not change the value. If the attribute's scope is set to be store view, then it will be dependent on the store's scope. If you look at the table, store_id is mapped to the store table.

2.4 MAGENTO EDITION DIFFERENCES (ENTERPRISE, COMMUNITY)

Advantages and disadvantages of each edition

- If a customer has the money, Enterprise is the way to go. There are
 a lot of pre-built modules that will save development time. They
 are tested and stable. Enterprise has Magento support whereas
 Community doesn't.
- In Magento 1, the difference was a few modules and poor support.
 Magento has been fixing the support and adding to the modules.
- Advantages of EE (https://magento.stackexchange.
 com/a/90481/13):

- Database scalability
- Advanced search
- Job queue
- Google tag manager (can easily add this into CE)
- · Additional admin logging
- Customer attributes
- Support
- Additional modules to better customer experience

Cache, indexing, search, and other feature differences

- There is no difference in CE vs EE caching other than the use of message queues (with RabbitMQ)
- Same with indexing
- Solr is available but will be changed out to ElasticSearch

2.5 MAGENTO CLOUD

Features and functions

 Magento's Enterprise hosting solution. According to people I have talked to at Magento, this allows a single source of responsibility for anything happening at an application or hosting level. They wrote the software, and they should be the best ones to keep the software running.

- · Contains three areas:
 - Integration: testing and development, up to 8 unique branches in different environments.
 - Staging: includes database, environment variables, configurations and Fastly.
 - Production: a three node high-availability system.
 - http://devdocs.magento.com/guides/v2.0/cloud/bk-cloud.html

Advantages

 Magento manages it. They have invested in making it fast and a good platform to build on.

Differences from other Magento editions

 This is an additional product (per my understanding). You pay the yearly fee for EE and the hosting on top of it.

2.6 MAGENTO SOLUTIONS

Bluefoot

- Bluefoot is a new CMS system that has been integrated into EE. It gives a high-quality WYSIWYG editor with drag and drop widgets.
 It makes creating pages much more easy and intuitive.
- https://www.bluefootcms.com/

B2B

- A new package for 2.2 that makes B2B transactions more streamlined.
- It provides a system for quoting, managing groups of customers, and better inventory management.

Magento Business Intelligence

- A new system for creating high-quality and informative reports.
 - The heartbeat of how your store is functioning. A Google Analytics for the business side of a company.

2.7 SEARCH ARCHITECTURE

Solr

- An open source search platform. Right now, Magento EE natively integrates with this.
- There is some configuration needed.
- Fairly easy to set up and produces lightning fast and relevant results.

Elasticsearch

- http://devdocs.magento.com/guides/v2.1/cloud/project/projectconf-files_services-elastic.html
- http://devdocs.magento.com/guides/v2.1/config-guide/ elasticsearch/es-overview.html

- Now supported in Magento EE 2.1.
- From a features standpoint, fairly similar to Solr
- Appears to be somewhat more popular than Solr: https://logz.io/
 blog/solr-vs-elasticsearch/

2.8 INFRASTRUCTURE REQUIREMENTS

Caching, Varnish, Redis, Memcached

- Magento can function with just PHP, Apache / Nginx, and MySQL.
- For better performance, Varnish is tightly integrated.
- Redis can be used to store customer sessions and caching (faster than the file system).
- Memcached is also available but seems that industry support for this is waning.
 - http://devdocs.magento.com/guides/v2.1/install-gde/systemrequirements-tech.html

Sessions

- Default is stored on the file system. This can slow down response times.
- Memcached and Redis are also available.

Database sharding

• There are some development limitations regarding this:

- Cannot write directly to the database (need to use the database interface instead, which is best practice anyway).
- Cannot use JOINs that affect the sales or quote databases.
- Use foreign keys to tables in the checkout sales or main databases.
- Should configure the split database solution before putting Magento into production. After is more difficult.
- You must separately / manually backup the other databases when using Magento's DB backup (which is terrible).
 - http://devdocs.magento.com/guides/v2.0/config-guide/ multi-master/multi-master.html

2.9 COOKIES

Cookie use and handling

- Cookies are used to identify the computer (shopper) to the server. PHP looks at the frontend cookie and returns the session information to Magento.
- Not saving cookies effectively renders the purchasing part of Magento useless. However, localStorage would now be somewhat of an option.

QUESTIONS:

What are the unique advantages of Magento 2 architecture when building a site?

- Magento is a powerful ecommerce platform.
- It is very flexible and customizable.
- It comes as a functioning system. With just a little setup and configuration, you can receive orders and fulfill them.
- When you need additional features added, Magento offers the ability to reach deep into the system and change most every aspect of how it functions.

What are the two methods available in the Magento 2 Admin (in the Content section) to change the design of a site?

- Content > Configuration
 - For each store view, you can change the theme and the settings available for use with it.
- Content > Schedule
 - You can change the theme for a specified period of time. This
 might apply to a seasonal design update. This is not used
 as often.

How can you change the layout of catalog pages using Magento 2 Admin functionality?

• Products > Catalog > Choose Product > Design > Layout:

- You can change the style of layout: some of the default options are 1 column, 2 columns with left sidebar, 2 columns with right sidebar, 3 columns and text.
- You can determine where the product options display.
 Normally, this is left as the default.
- You can specify layout update XML. While this might seem handy, we have found this gets in the way more often than not as a hack (if used for multiple or many products). It should be only used for a one-off update.
- The reason is that if you are making changes here for a number of products, likely those changes should be made into the site's code instead of here. These are easy to miss later resulting in additional developer time trying to find what is making the change.

How is product data constructed in Magento 2 (product attributes, inventory, price, images, etc.)?

- Product attributes are pulled from either the store view or the default (0) store if nothing is specified.
- Inventory is specified on a global level.
- Tier pricing is associated with a website, but flat product pricing can be changed on a store view basis.
- Images are associated with a store.
- This information is pulled out of the database and is rendered on the frontend.

When does product inventory change (decrease) during the ordering process? How can an administrator control the inventory change?

- When an order is submitted, the inventory for that product is decremented by the quantity ordered. Keep in mind that this does not reflect the quantity on hand. In accounting terms the quantity in Magento's inventory is really the quantity available (to be sold).
- Administrators can change this in product management, in the quantity field.

What is RMA in Magento 2, and what are the RMA types?

- Return Merchandise Authorization. This allows a store to know what products are being returned and possibly offer return labels.
- The three RMA types are: Store Credit, Refund, Exchange:
 - The customer can request one of these types when they request an RMA from the Account Dashboard (within the completed order)
 - From: http://thedigitalpm.com/rma-magento-rma-types/

What are the required attributes for creating a CMS page using Magento Admin functionality?

 Page title (provides the default value for the meta title tag and the url key)

What is the process for creating a product, and which catalog data is used in this process?

- Products > Catalog > Add new product.
- If you select the drop-down menu, you can choose what type of product to create.
- · You must specify:
 - Any custom attributes that have been marked as required without a default value.
 - Price
 - Product Name
 - SKU
- It is good to specify:
 - Product image
 - Description
 - Short description
 - SEO-related fields, such as Meta Title and Meta Description

How is the price defined for a product, and what methods are available for changing product price using Magento 2 Admin functionality?

• Simple pricing is set in the Price field.

- You can also update pricing in the Advanced Pricing link:
 - Here you can set tier pricing for customer groups and specific quantities.
- · Via Mass Action update on the catalog grid.

What are main differences in Magento indexing between Magento Community Edition 2.x and Enterprise Edition 2.x?

 https://magento.stackexchange.com/questions/188403/magento2reindexing-ce-vs-ee

What marketing and merchandising features are available only in Magento 2 Enterprise Edition?

- Personalized content
- Improved merchandising
- Bluefoot CMS
- Reward / loyalty points
- In-Store Credits
- Gift Registry and Cards
- Private Sales
- Bulk Ordering
- Comprehensive: https://www.kt-team.de/blog/compare-magento-editions-1ee-vs-2ce-vs-2ee

What payment methods and payment functionality are available only in Magento 2 Enterprise Edition?

- Cybersource
- eWAY
- Worldpay

What are the features and functions of Magento Cloud? (copied from above)

- Magento's Enterprise hosting solution. According to people I have talked to at Magento, this allows a single source of responsibility for anything happening at an application or hosting level. They wrote the software, and they should be the best ones to keep the software running.
- Contains three areas:
 - Integration: testing and development, up to 8 unique branches in different environments.
 - Staging: includes database, environment variables, configurations and Fastly.
 - Production: a three node high-availability system.
 - http://devdocs.magento.com/guides/v2.0/cloud/bk-cloud.html

What are the differences between Elasticsearch and Solr?

 Elasticsearch allows multiple types of documents in an index. Solr requires you to do the work at the application level.

- Elasticsearch is more configurable on the fly.
- Elasticsearch supports complex nested types.
- Solr supports grouping, but Elasticsearch doesn't.
- https://www.hcltech.com/blogs/elasticsearch-vs-solr

What is caching, and why is it important?

- Caching saves a snapshot of pre-generated, filtered or calculated data.
- This saves the generation time, resulting in faster responses.
- Faster responses mean less wait time for a customer (or admin) on the website.
- · Less wait time means happier people.

When would you recommend sharding a database?

 In very large-scale deployments. This would allow the databases to be separately tuned, and some can then be used in read-only mode (like the catalog tables for the frontend).

What is Bluefoot?

- Bluefoot is a CMS package that adds drag & drop capabilities to the admin editing experience.
- It is also very extensible to add new types of elements.

What functions are included in B2B? In Magento Business Intelligence?

- B2B
 - Custom quotes / pricing
 - Unique catalogs for customers
 - Quick order
 - Credit limits
 - Loyalty
 - Requisition lists
 - https://www.slideshare.net/divanteltd/magento-22-b2bpimcore-open-loyalty-features-and-case-study
- Magento Business Intelligence
 - Replicates store data and sends it to Magento
 - Transforms data and analyzes it
 - · Creates new joins and reporting metrics
 - Goal is to be the one connected source for a business' ecommerce data.
 - https://www.slideshare.net/mwoolgar/magentobusiness-intelligence?qid=3cfa4f6d-fa83-4fc8-89feca60552158a2&v=&b=&from_search=

How are cookies used in Magento 2?

- They are used to associate a customer (or admin) with PHP's session storage. This session storage contains the transient information about this person.
- They are used also to transfer certain types of information to the user. In other words, they store certain types of transient data that is related to that user.

Which customer data is saved in cookies, and how is it used in the storefront using Magento native functionality?

- "Cart": the association with the customer's shopping cart
- "Compare": the items in the customer's Compare Products list
- "Customer": an encrypted version of the shopper's customer ID
- "Customer_Auth": Whether or not the customer is logged into the store
- "Customer_Info": Encrypted version of the customer's group
- "Frontend": customer's session ID (most important cookie)
- "Last_Category": last category visited by the shopper
- "Last_Product": the most recent product viewed by a shopper
- "Persistent_Shopping_Cart": a link to information about the shopper's cart and viewing history
- "RecentlyCompared": Items recently compared by the shopper

- "STF": information on products shopper has emailed to friends
- "Store": The store view or language chosen by the shopper
- "User_Allowed_Save_Cookie": whether or not the customer allows cookies to be saved
- "Viewed_Product_Ids": Products recently viewed by the shopper
- "Wishlist": An encrypted list of products added to the shopper's wishlist
- "Wishlist_Cnt": The number of items in the shopper's wishlist
- FROM: http://docs.magento.com/m2/ce/user_guide/stores/cookie-reference.html

What is Swagger, and how is it used in Magento?

- Swagger is an API framework.
- It provides a standardized way to define and document API access.
- Magento uses it for their REST API (http://devdocs.magento.com/
 swagger/)

REFERENCES

- Magento 2 Community Edition and Enterprise Edition User Guides
 Magento 2 Help: Support, Documentation, and Forum
- Magento U courses: eCommerce with Magento 2, Managing your
 Magento 2 Store, Stepping Up Sales with Magento Promotions
 and Discounts



3.1 MAGENTO ADMIN: CONCEPTS, FEATURES, AND USAGE

Sections of the Admin

- Dashboard: the entry-point into the system
- Sales: orders, invoices, and shipping
- Products: management of the product catalog
- Customers: customer management
- Marketing: promotions, SEO, and user reviews
- Content: CMS pages and blocks
- Reports: Magento reports on sales and customer interaction
- Stores: Configuration, store setup, attributes, customer groups, taxes and currency
- System: Cache management, import/export, permissions

User roles and role scope

- User roles are groupings of allowed functionality.
- Magento ACL is very granular to grant or deny access to most every area of the system.
- Set up a role to say where users can be allowed or denied.
- Easy to assign or change user access.

Grids and views

- Two types of Magento grids: UI component and old style.
- Many grids have a field at the top for filtering that column (better UX than UI component style).
- UI component type (products and customers):
 - Filtering link > section for determining what to see
 - More flexible and editable
 - Allows for setting bookmarks
- Old style:
 - Essentially the same as Magento 1, but a different theme.

How is role scope used?

To limit admin access to specific areas of a system. An example is
a CSR where you might not want them to have access to system
configuration. You might only give them access to the Sales and
Customers area.

How can you customize a grid display for your own purposes?

- You can:
 - · Drag/drop columns to reorder them
 - Show/hide columns
 - Save specific column configurations for later access.

In which section of the Admin are most initial configuration options located?

Store > Configuration

3.2 CONTENT STAGING AND PREVIEWS

Staging timelines

- http://docs.magento.com/m2/ee/user_guide/cms/content-staging.
 httml
- Provides context for when changes are made (or will be made) to content.

Viewing staged content

· See question below.

How do you set a banner to appear on a specific date?

- Clicking "Schedule New Update" on a product page.
- http://docs.magento.com/m2/ee/user_guide/catalog/productscheduled-changes.html

How do you preview the result of setting content to appear at a future time?

- Clicking "Preview" next to the schedule content change.
- http://docs.magento.com/m2/ee/user_guide/catalog/productscheduled-changes.html

3.3 CATALOG

Product types

- Simple
- Configurable
- Grouped
- Virtual
- Bundle
- Downloadable
- Giftcard (EE only)

Product creation

- Products > Catalog > Add New Product
- Enter the required fields.
- Make sure to switch Enabled to Yes and assign a website (if in multi-store mode).

Product attributes and attribute sets

- Attributes and attribute sets are configured in Store > Attributes and Store > Attribute Sets
- Attributes:
 - Describes products in a structured and defined, yet very flexible way.

- The details are stored in tables associated with the particular data type: text, varchar, int, decimal. With this, they can be simple text entry or a select list (used with configurable products).
- You can assign a scope to attributes whether they are for the website or store view.

Attribute sets:

- A set of attributes.
- These attributes sets allow attributes to be grouped into "folders."
- They are especially useful for different types of products.
 For example, a t-shirt will need different attributes than a microphone.
- http://docs.magento.com/m2/ee/user_guide/catalog/productattributes.html

Product videos

 Able to show videos alongside images on products. YouTube and Vimeo are supported.

Categories

- · Lists of products on the frontend.
- Can display text and customize the display of these products.

- Products can be viewed in list (with the short description) or grid mode.
- Product can be filtered by attributes (layered navigation)
- Products can be sorted and the number of products per page can be controlled.

Visual Merchandiser

Tool to position products in the category listing.

What are the different product types in Magento 2 Enterprise Edition?

• Gift card is only available in EE.

What are the minimum attributes to create a simple product?

- Product Name
- SKU
- Price

What is the product attribute set used for in Magento 2? Can different product types use the same attribute set?

- Attribute sets are a grouping of attributes. They are used to specify
 details about unique types of products. For example, one might be
 a Shirt or Apparel category (with a size attribute) whereas another
 type might be Microphone (with a connection type attribute).
- Yes, multiple product types can use the same attribute set.

What is the process of creating layered navigation (including category creation and attributes, product attribute types, and product-category associations)?

- Create a category to display t-shirts on the front end.
 - Ensure that "Is Anchor" is set to "Yes."
- Create an attribute called "size:"
 - Type is a Dropdown list.
 - Values are Small, Medium, and Large.
 - You must also ensure that "Use in Layered Navigation" in Storefront Properties is set to Filterable (with results).
 - You can change the order that this attribute is visible with the Position attribute.
- Create three products and specify the size attribute for each: each one corresponding to a unique item in the list above.
- · Assign those products to the category.

What are the different ways in which an Admin user can update product inventory?

- Modify product, and choose Advanced Inventory.
- Mass edit inventory:
 - Check the box next to a product in the Products > Catalog grid.

- Advanced Inventory tab
- Set the QTY.
- Keep in mind that this doesn't adjust the inventory, rather it will reset it. This would be useful in very few and limited cases.

API Integration

- GET /V1/stockItems/:productSku
- PUT /V1/products/:productSku/stockItems/:itemId
- GET /V1/stockItems/lowStock/
- GET /V1/stockStatuses/:productSku
- CSV file import

How can you display associated products in the cart and on the product page?

- Displaying associated products in the cart is set through crosssells. They are selected from the most recently added product to the cart.
- Displaying products on the product page is done through upsells and related products.
- Both of these are set on a product-by-product basis in Products
 Catalog > Product. These options are chosen in the Related
 Products, Up-Sells and Cross-Sells section.

How can you create page redirects for specific search requests?

Marketing > Search Terms > Add New Search Term

Can a customer submit a JPG image with a product review?

 Not by default. There are ways to link to an image, but they cannot upload an image.

What are the options for displaying a product video?

- You can insert it into the product description.
- · You can add it using the Magento product video functionality.

3.4 SHOPPING CART

Pricing and tax display

- · A complex subject.
- Price is more or less straight-forward. It is either the price of the products or an aggregation of the products included by the listed product (configurable, grouped, bundled).
- <u>Tax is much more complex.</u> Magento accommodates VAT and sales tax.
- <u>Tax Rounding Rules</u>
 - Unit price: Magento calculates the tax for each item and displays prices including tax.
 - Total tax amount: Magento rounds the tax for each item before adding the tax totals together.

- Row total: Magento calculates the tax for each line (based on the row total field).
 - Total tax amount: Magento rounds the tax for each row and then adds them together.
- Total: tax is calculated for each item and tax values are added to calculate the total unrounded tax amount for the order.
 - Total tax amount: rounding is then applied to the total tax amount.
- Tax Cheatsheet

Registered customers

- These are customer accounts found in the Magento system.
- They are stored in the customer_entity table, using the EAV data storage model.
- When a customer is logged in, all orders are associated with that customer's account.
- Allows the customer to easily track the status of their orders.
- In addition, the following is also associated:
- Addresses
- Billing Agreements
- Newsletter subscriptions
- Product Reviews
- · Wish List

 Allows you to remember their address in an address book for future purchases, thus reducing more data entry (friction) in the checkout process.

Guest Customers

- Guest customers can place orders (depending on the setting in Stores > Configuration > Sales > Checkout > Allow Guest Checkout).
- They will not be able to see their previous orders.
- Pretty much browses the site as an anonymous visitor.

Wishlist shopping cart options

- You can move a product to your Wishlist.
- Wishlist acts somewhat like an Amazon cart where you can move a product to be purchased later.

Gift shopping cart options

- Choose how you want your package shipped.
- https://m2ee.shero.io/checkout/cart/

How can you create a product discount to have it automatically added in the shopping cart?

- Marketing > Cart Price Rules > Add New Rule
- Set details: Coupon: "No Coupon"

Can guest customers place orders?

Yes, if Stores > Configuration > Sales > Checkout > Allow Guest
 Checkout is set to "yes" (default = "yes")

Can customers ship products to multiple different addresses using native Magento 2 functionality?

- Yes.
- By default, this is disabled in Stores > Configuration > Multishipping
 Settings > Allow Shipping to Multiple Addresses

How can a customer register an account when placing an order?

After checkout is complete.

Can shopping cart products be shared among different websites?

- There is some configuration that needs to be set up.
- Multi-store mode must be enabled and multiple websites must be present.
- The products must be shared across websites. This is done in the Websites section of the edit product page. This section is only active if multi-site is visible.
- Stores > Configuration > Customers > Customer Configuration > Account sharing options = Global
- Stores > Configuration > General > Web > Session Validation
 Settings > Use SID on Storefront = Yes

What are the different shopping cart promotion types, and how can shoppers apply them as discounts?

- Can be automatically applied (Coupon: No Coupon). Or, you can create coupon codes. These can be limited to a certain number of uses per customer, with a valid to > from date.
- Percent of product price discount:
 - This takes a specified percentage off the product. Example:
 10% off Our Red T-Shirts.
- Fixed amount discount:
 - Takes a set dollar amount off of a product. Example: \$5 off
 All Shirts.
- Fixed amount discount for whole cart:
 - Takes a set dollar amount off the cart. Buy a shirt from us and get \$20 off your order.
- Buy X get Y free (discount amount is Y):
 - In other words, Buy X quantity of the product and get Y quantity for free.
 - Discount Qty Step (Buy X) is where you set the minimum number to purchase. Enter the quantity to get for free into the Discount Amount field.

How does the persistent shopping cart option work in Magento 2?

It saves a link to the shopping cart for a year or more.

 Downside is that it requires a customer to log in to make a purchase. This means that that computer is locked down into the customer account, which is a drawback.

Does Magento 2 Enterprise Edition functionality allow merchants to contact shoppers about their abandoned shopping carts?

- Yes: http://docs.magento.com/m2/ee/user_guide/marketing/email-reminder-rules.html?Highlight=abandoned
- This is found in Marketing > Email Reminders

3.5 PAYMENT METHODS

PayPal

- PayPal is a very popular means of payment.
- Magento is tightly integrated and offers this functionality out of the box.
- · Included is:
 - PayPal Payment Advanced (PCI compliant), Pro and Standard
 - PayPal Payflow Pro and Link (PCI compliant).

Native payment options:

- PayPal
- BrainTree
- Authorize.net

- Cybersource (EE-only)
- eWAY (EE-only)
- Worldpay (EE-only)
- Check / Money Order
 - Allows the order to be placed with no other payment information. Customer is emailed details usually as to where to send the check. Order is held until check is received.
- Cash on Delivery
 - Shipping carrier receives payment from the customer at the time of delivery.
 - http://docs.magento.com/m2/ee/user_guide/payment/cashon-delivery.html
- Bank Transfer
 - Accepts bank account information for a wire transfer. Expect this to bring some challenges with security.
- Purchase Order
 - Similar to Check / Money Order except that it allows a PO Number to be entered.
- Zero Subtotal Checkout
 - Allows a \$0 order to be placed. With a no-dollar-amount order, no payment information is necessary.

Braintree

- Reduces PCI compliance scope for merchants. Credit card details are encrypted and sent directly to Braintree instead of traveling through merchant servers.
- http://docs.magento.com/m2/ee/user_guide/payment/braintree.
 html

Third-party payment

- PayPal
- Braintree
- Authorize.net
- Cybersource (EE only)
- eWAY (EE only)
- Worldpay (EE only)

Reward points

- The capability to reward customers with points good toward future merchandise purchases.
- This is configured in a Shopping Cart Price rule in the Actions tab:
 Add Reward Points.

What payment types are available in Magento 2 Enterprise Edition? Are all the same payment types available in Magento 2 Community Edition?

PayPal

- BrainTree
- Authorize.net
- Cybersource (EE-only)
- eWAY (EE-only)
- Worldpay (EE-only)
- Check / Money Order
- Cash on Delivery
- Bank Transfer
- Purchase Order
- Zero Subtotal Checkout

Does Magento 2 save credit card numbers in the database when the Authorize.net payment method is used?

No.

For which product types can the Magento 2 Recurring Profile be enabled?

• Recurring Profile is no longer present in Magento 2.

Where can the PayPal Express payment method be used on a Magento 2 site (on which pages)?

- Product pages (checkout with this product)
- Shopping cart page (express checkout)
- Checkout page

What is the difference between the Authorize Only and Authorize and Capture payment actions?

- This determines what happens when an order is placed. By default, funds are captured with creating an invoice.
- Authorize only ensures that the card is valid and that there are available funds.
- Authorize and capture performs the above action as well as initiating the funds transfer.

3.6 SHIPPING

Native shipping methods

- Free Shipping
- Flat Rate
- Table Rates
- DHL
- FedEx
- UPS
- USPS

Free shipping

 All live-rated carriers offer support for free shipping. This offer only applies to a particular service type (say, UPS Ground) for a carrier when the order total is above a specified amount. There is also a free shipping option that will enable free shipping above a specified amount.

Third-party shipping

· Options for UPS, USPS, FedEx, and DHL

Can a storefront customer select a delivery date when placing an order with the Table Rates shipping option?

· Not without custom functionality.

What shipping methods are available natively in Magento 2 Enterprise Edition?

- · Free Shipping
- Flat Rate
- Table Rates
- DHL
- FedEx
- UPS
- USPS

What options are available for offering a customer free shipping when placing an order?

- Any of the live-rated carriers.
- Table rates.
- · Free shipping option.

How is the shipping cost calculated for the DHL and Table Rates methods?

- DHL:
 - Uses a rating API to determine the price based on: weight, dimensions, origin, destination.
- Table Rates:
 - Looks up in the table rate table to find a shipping rate based on the weight, destination and price.

3.7 CHECKOUT

Data flow

- · Customer given option to login.
- Customer enters shipping address on step #1.
- Customer chooses shipping method.
- Proceeds to Review & Payment.
- · Customer selects payment method.
- · Customer can change billing address.
- Customer enters credit card information (if applicable).
- · Customer places order.

Tax calculation

- Tax is manually calculated on products for the specified destination.
- This is found in Tax Rules and Tax Zones and Rates.
- Tax Rules are an aggregation of Tax Zones and Rates.

Price calculation

- The totals are calculated:
 - Per address
 - With the number of products shipped to that address
 - · Shipping is added
 - Discounts are subtracted
 - Tax is applied (possibly including shipping)
 - Any other custom totals applied in here

What product types do not require any shipping cost?

- Downloadable
- Virtual
- Gift card (possibly)

Can a customer apply a coupon on the order review page?

Yes

Is it possible to change product quantity during checkout, on the order review page?

No

What is a gift certificate, and how can it be used?

- Gift certificate (card) is a means of gifting someone else with money already paid to the store (which keeps the funds there).
- EE has the capacity for this, and allows these gift cards to be used at the payment step.

3.8 ORDER PROCESSING (ORDER MANAGEMENT, FULFILMENT, ORDER STATUSES)

Orders

- This is the initial step in delivery process.
- What the customer wants to purchase is placed into an order record.
- This record is visible in Sales > Orders.

Invoices

- This record is created when an order is billed to the customer.
- This can be a manual action, but with customization, can be done automatically.

Shipments

- This record is created when an order is shipped. This is the final step in fulfilling an order.
- This is also, by default, a manual action.

Credit memos

- This record is created to return money to the customer. It is a return receipt.
- This can interact with a payment provider to refund funds.

Returns (RMAs)

 Authorizes a return and gives information about that return to the merchant.

When an order is saved in the Magento 2 database, what triggers a confirmation email to a customer who pays using PayPal Express? (Logging in to the PayPal account? Clicking the Checkout button? Clicking the Purchase button?)

Clicking the purchase button (at the end of the payment process)
 sends a request to Paypal to authorize the order.

When editing a pending order, which order data can be changed?

- Billing Address
- Shipping Address
- You can also edit anything in the order if you click the Edit button.
 However, that will recreate the order, which is a problem for Paypal orders.

What are the different order statuses available in Magento 2, and how can they be managed by a store owner?

- Pending
- Processing
- Complete
- Closed
- Canceled
- PayPal Canceled Reversal
- Pending PayPal Pricing and tax display
- PayPal Reversed
- On Hold
- Suspected Fraud
- Pending Payment
- Payment Review
- Custom Order Statuses can be created via Stores > Order Status.
 After a custom order status has been created, it can be assigned to an order state. Custom order statuses can be adjusted in the notes section of the order page.

What are the different methods of creating an order in Magento 2 (such as one-page checkout, multiple addresses checkout, back end create order, Web Services API, etc.)?

- One-page checkout (standard way for customers to purchase)
- Variation is the multiple addresses checkout. This allows customers to ship different items to different places.
- Admin panel order creation (used by CSRs)
- API (used to automate or synchronize order creation)
- Custom functionality. Developers can import or migrate order information into a Magento build.

Does Magento 2 native logic allow for partial shipment or partial payment of an order, and if so, what are the conditions for using this functionality?

- Yes, Magento allows partial invoices and shipments IF the payment provider is set to allow partial capture.
- Methods that allow this:
 - Payflow Pro
 - Express
 - Paypal Direct

When processing an order, at what point does the order become complete?

When it is invoiced and shipped.

3.9 SECURITY

SSL

- The store URLs are set in Stores > Configuration > General > Web > Base URLs and Base URLs (Secure).
- The Magento portion of going SSL-only involves setting the Base URL to be https://example.com.
- SSL is important as it encrypts traffic going to and from the merchant's server.

PCI-DSS / PA-DSS

- Standards for the payment card industry.
- PCI-DSS: Payment Card Industry Data Security Standard: this
 applies to an organization (merchant). It covers all aspects of
 payment security such as authorized employees, physical and
 electronic security measures, etc.
- PA-DSS: Payment Application Data Security Standard: this applies to Magento, Inc.'s products and is a component of being PCI Compliant.

Patching

- Magento releases patches for security vulnerabilities.
- Magento includes cron scripts to automatically patch it (which seems dangerous given Magento's history with problematic patches).
- Ideal is to review the patch, test it on staging environment, and push live.

Security alerting

 Magento offers free security auditing services (Magento Security Center).

Backups

 Magento can backup your website, but this will render it unavailable for a period of time.

What are three major security features in native Magento 2 Enterprise Edition, and are the same features available in Magento 2 Community Edition?

- Strong data encryption (available in CE)
- Updateable database keys (available in CE)
- Standard security based on OWASP Top 10: https://www.owasp.
 org/index.php/Category:OWASP_Top_Ten_Project

What is the data encryption / hashing key management method used in Magento 2 Enterprise Edition? Is the same method used in Magento 2 Community Edition?

- Hashing: MD5 or SHA256 (more secure)
- Encryption: default is to use Rijndael_256 algorithm

3.10 EXTENSIONS AND CUSTOMIZATIONS

Marketplace

Magento's store to purchase modules.

- Module developers upload modules and profit share with Magento.
- Magento runs extensive QA on the modules to ensure they fit the requirements.
- · Merchants or developers purchase modules from this and install.

Installation

- · Installation is fairly straightforward.
- If using composer, add the module into composer:
 - composer requires vendor/module
- Then:
 - bin/magento module:enable vendor_module
 - bin/magento setup:upgrade
 - bin/magento setup:di:compile
- QA the website to ensure that everything works as expected.
- Deploy to product and retest to ensure that everything still works as expected.

Differences between Magento 1 Marketplace and Magento 2 Marketplace

- Magento Connect had little in the way of QA for the modules uploaded.
- · Magento Connect did not share profits at all.

- Magento Marketplace uses composer to enable access to modules.
- Magento Marketplace filters modules to ensure that there is only one approved module per category.

Where can a merchant find Magento 2 extensions?

- Google
- Recommended: Magento Marketplace

What are the two ways of installing an extension in Magento 2?

- Composer (if available)
- Manually

How can a Magento 2 Admin user disable an extension using Admin functionality?

- This question is misleading. It is not possible to disable an extension in Admin.
- You can disable a module's output: Stores > Configuration > Advanced > Disable Modules Output.
- This just prevents a module from showing any HTML. The module still can run in the background.

When is a customization required?

- When vanilla Magento doesn't have needed functionality.
- When a quality module that meets the needs is not available. Then you write your own customization.

3.11 CUSTOMERS (SEGMENTS, GROUPS)

Customer groups

- Provides a grouping mechanism for customers.
- Allows application of specific rules or actions for customers in that group.
- For example, customer groups can have special pricing, receive discounts, be exempted from tax, etc.

Customer segments

- A means to create a segment of customers based on previous purchasing history.
- This gives capability to target customers who are not in a customer group with emails and website updates.

Customer attributes

- Describes the customer.
- An example is the Date of Birth field. While I hope no one actually uses this field, it does describe the customer.
- Enterprise Edition gives the capability for creating and modifying (via the admin interface) these attributes.
- While this is technically possible in the database in CE, the admin interface makes it much easier.

Customer account features and functionality (wishlists, gift registry, returns)

- Wishlists are a CE and EE feature of Magento. This allows the
 customer to create a selection of products that they wish to
 purchase (or others to purchase for them) in the future. The
 wishlists are private but can be shared via email with other
 customers. Enterprise supports multiple wishlists per customer.
- Gift Registry is an EE-only feature of Magento. The registry allows customers to create a public list of products that they wish to be purchased. Often this is used for weddings and baby showers and similar events.
- Returns is an EE-only feature of Magento. If enabled, a customer can locate their order and begin the process to return it. This is hooked up to the RMA section of the Magento Admin.

How can customer groups be used in assigning discounts?

- Catalog Price Rules: select the customer group and choose the discounts to be taken.
- Cart Price Rules: select the customer group, ensure that no coupon code is selected, and choose the discounts to be taken.
- Tier pricing on products: add a new tier pricing level for a product and specify the customer group.

What are the differences between customer segments and customer groups?

• Customer groups are manual (or programmatically assigned).

 Customer segments are dynamic and are determined based on criteria or attributes of the customer's history or details.

Using Magento 2 Enterprise Edition native functionality, how could you display a personalized banner targeted to customers who match specific conditions?

 You can set a banner to only be visible to a specific customer segment.

3.12 USING CMS

CMS pages and blocks

- CMS pages are publicly viewable. They are like a product except that there is almost no structured data used to display. Enterprise Edition adds a lot of functionality to this area of the admin panel.
- CMS blocks are reusable pieces of content. Maybe you have an author's bio to be used on the website. You could place that bio in a static block and insert that (using a widget) almost anywhere you want on the website.

Widgets

- Widgets are a very powerful way to create and control content.
 - Magento comes with the following:
 - Banner Rotator (EE-only)
 - CMS Hierarchy Node Link (EE-only)
 - CMS Page Link

- CMS Static Block
- Catalog Category Link
- Catalog Events Carousel (EE-only)
- Catalog New Products List
- Catalog Product Link
- Catalog Products List
- Gift Registry Search (EE-only)
- Order by SKU (EE-only)
- Orders and Returns (EE-only)
- Recently compared products
- Recently viewed products
- Wish list search

Banners

Gives merchant the capability to display banners on the website.
 They can be customized and shown based on customer segments and other conditions.

How can you display a telephone number in a page footer using Admin functionality?

• Set it in System > Configuration > General > Store Information

Does a layout change of a category page from one column to three columns require a customization?

No

What does the Activate Bluefoot Button do?

 It enables Bluefoot functionality for an attribute or area. For example, clicking the Activate Bluefoot button a product description will enable Bluefoot for just that product description..

Which of the following changes requires a code customization: Displaying a banner in the page content area, changing a footer link, or changing a product page layout from one column to two columns?

Changing a footer link.

Does creating a product price attribute require a customization, or can this be achieved using native Magento 2 functionality?

- This can be achieved with native functionality:
 - Stores > Product Attributes > Add New Attribute
 - Catalog Input Type for Store Owner: Price

Could you create a "How did you hear about us?" customer attribute to collect customer data during purchase and export it to a CSV file using native functionality?

- Yes!
 - Create the attribute:

- Stores > Attributes > Customer
- Add New Attribute
- To Export:
 - System > Export
 - Entity Type: Customers Main File
 - Click continue (checking a box in the list will exclude that attribute).

Which Magento 2 feature can be used to display different content depending on customer type/group?

- Customer Segments (EE-only)
- Category Permissions (EE-only) can filter by customer group.

3.13 PROMOTIONS AND PRICING RULES (CATALOG RULES, SHOPPING CART RULES)

Catalog price rules

- Discounts for multiple products.
- Allows you to target products through specified attribute values.
- Can be utilized for certain customer groups (this is one way to give a customer group an across-the-board discount).
- Rules must be applied to the products by clicking Apply Rules on the grid page or Save and Apply on the individual page.

 This causes the indexes to refresh and store the new pricing data.

Shopping cart price rules

- Discounts applied to the shopping cart.
- These can be applied based on customer groups (another way to give a customer group an across-the-board discount) or with customer segments (EE-only).
- Can also be used to create coupon codes (where you can specify a number of uses per customer).
 - Conditions apply to products and how they relate to the cart AND/OR product attributes.

Product relations (related products, upsells, cross-sells)

- Related products are visible on the product page
 - The goal is that they direct a customer's attention to other products that can be purchased as a companion to the product they are looking at. An example here would be if the main product is an iPhone, you might list a case to go with that.
- Upsells are visible from a product page
 - The goal is to show these products higher on the page (than related products) as the goal is to sell these as a higher-value item than the viewed product.
- Cross-sells are visible on the shopping cart page

- Similar to related products, these guide the shopper to additional products that might benefit their current purchase OR a smaller-value item as an impulse buy.
- http://docs.magento.com/m2/ee/user_guide/catalog/relatedproducts-up-sells-cross-sells.html

Reward points

- Part of the shopping cart price rules.
- Gifts the customer with loyalty / reward points when they purchase specific products.
- Allows them to cash them back in and purchase more goods from the merchant.
- http://docs.magento.com/m2/ee/user_guide/marketing/rewardsloyalty.html

Coupons

- Cart Pricing Rules
- Marketing > Cart Price Rules
- To create a coupon code:
 - Go to the above path.
 - Click Add New Rule.
 - Select Coupon: Specific Coupon.

- Either specify a coupon code or check "Use Auto Generation."
- The coupon code can be limited to a number of uses per coupon (first 100 to use this coupon get it).
- OR the coupon code can be limited to a number of uses per customer (each customer can use this coupon 3 times).
- OR you can use Auto Generation to create a pool of coupons to use.

How can product attributes be used when creating shopping cart discounts?

- Create a new Cart Price Rule.
- Marketing > Cart Price Rules
- Click Add New Rule.
- · Go to Conditions.
- Select Products Attribute Subselection.
- Click the Plus below "if an item is found in the cart with ALL of these conditions true:"
 - Select an attribute and click the ellipses (...) to the right of "is."
 Specify the text value (not the attribute ID).

How is the use of shopping cart coupon codes tracked with Magento 2 native logic?

• Go to the shopping cart rule.

- Click on the new Manage Coupon Codes section.
- Coupon codes that are used are visible here.
- Reports > Sales / Coupons

What are the three common methods of creating product price discounts?

- Single product special price: go into the product and set the Special Price attribute and the date range that this price will be in effect.
- Catalog Price Rules: on a more global basis, use product attributes to locate the products for a discount.
- Cart Price Rules: apply blanket discounts to all products.

How could you create a product price discount and display a related "on sale" banner on listing pages using Magento 2 Enterprise Edition functionality?

- Create the pricing rule:
 - Marketing > Catalog Price Rules
- · Create the banner:
 - Marketing > Content > Banners
 - Add banner.
 - In "Related Promotions," specify the price rule to be featured.

3.14 IMPORT AND EXPORT (OF CUSTOMERS, ORDERS, PRODUCTS)

Which customer and product data can be imported and exported using Magento 2 native logic?

- Product details
 - Data for all product types
 - Product images
- Advanced pricing for products
- Customer details
- Customer addresses

What is the process of creating a product in Magento using product import functionality?

- Export the products. This will provide a good working template for the import.
- Specify the fields.
- SKU is the only thing required.
- http://docs.magento.com/m2/ee/user_guide/system/dataattributes-product.html provides a list of more attributes.

What product types can be created in Magento 2 Enterprise Edition using product import functionality?

- Simple
- Grouped

- Configurable
- Virtual
- Bundle
- Downloadable
- Giftcard? This is not listed, but I wouldn't know why this could not be imported.

Can you add an image to a product using Magento product import functionality?

- Yes.
- Set the base_image, small_image or thumbnail_image values in the CSV to import.
- In System > Import, specify the folder that contains these files (will be improved in 2.2).

3.15 REPORTING

Magento reporting

- Magento's reports are a way to get aggregated insight into the pipeline and how the website is functioning.
- At this point, they seem quite lacking, but can provide occasionally useful information.

Magento Business Intelligence reporting

 Magento's solution to the need for more advanced reporting with additional data sources.

- This aggregates data from additional sources, such as Google Analytics.
- A Google Analytics for ecommerce, where all your data is stored and displayed in one location.

If several reports are not up-to-date, how can you remedy this?

• Reports > Statistics > Refresh Statistics

What formats can the Abandoned Carts report data be exported in?

- CSV
- Excel XML (xml)

3.16 TRANSACTIONAL EMAILS

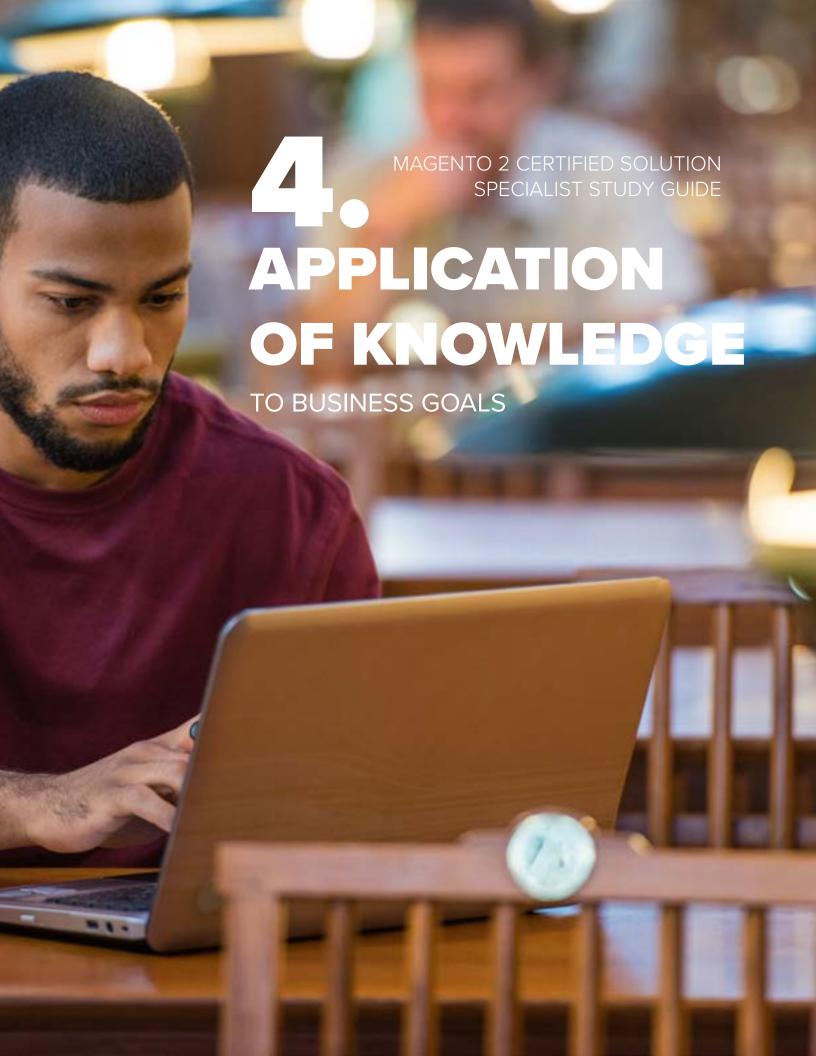
Transactional email templates are comprised of a mixture of what three languages?

- HTML
- CSS
- Text

How do you configure an email action to use a particular template?

- Store > Configuration
- Find the area that the email template might be found in:
 - Customer > Customer Configuration
 - Sales > Sales Emails

- Select the name of your new transactional email template.
- Template modification is found in Marketing > Communication > Email Templates.
- When creating transactional email templates, I like to name new ones like this:
 - Existing name
 - One or two words that describe the changes you are making.
- http://docs.magento.com/m2/ee/user_guide/marketing/emailtemplates.html



4.1 REQUIREMENTS GATHERING

Determining client needs

- This is beyond the scope of a study guide.
- https://www.atlanticbt.com/blog/a-primer-on-ecommercerequirements-gathering-plus-free-downloads/

Requirements gathering techniques

- Meetings and discussions
- Reviewing existing codebase (if possible)
- Careful analysis of current platform (if migrating)
- Detailing every area of the website (if migrating)
- 1:1 interviews
- Workshops
- Surveys
- Data analysis
- · Questions:
 - What problem are we solving? OR What is the intended purpose?
 - How is it going to be used?
 - Who is going to use it?

 Are there any other systems or modules that will be touched in this process?

4.2 INTERNATIONALIZATION / MULTISITE

Multisite infrastructure

- Multiple Magento sites (store_website table)
 - One server solution. Cheapest / easiest.
- Multiple servers:
 - Connected to one single database
 - More scalable, but database could become the bottleneck.
 - Replicated
 - Challenging, but database should be scalable at this point.
 - · Completely separate, same codebase
 - Separation in orders, customers, configuration.
 - Used for different server locations and no continuity with data.

Websites, stores, store views

- Website: the brand / idea being sold.
- Stores: a segment of a product offering. Where the root category is set. Likely the least used of the three categories.
- Store view: the language presented to the customer.

Localization

- Targeting website at a specific language or nationality.
- Magento is very localizable. Settings for this is found in Store >
 Configuration > General > General > Locale Options
 - Timezone
 - Locale / language
 - Weight unit
 - First day of week
 - Weekend days
- Magento does not handle other calendars.

International taxes

- Easy to target other countries with Stores > Tax Zones and Rates.
- Specify country name and enter the percentage.
- Should reference an international tax lawyer for what rates apply where.

Multisite shipping

- Shipping from multiple warehouses resulting in multiple shipments.
- Magento CE does not handle this natively at this point.
- Magento Commerce Order Management: https://magento.com/
 resources/magento-commerce-order-management

4.3 THIRD-PARTY INTEGRATIONS

OMS

- Order Management System
- Examples:
 - Netsuite
 - Magento Commerce Order Management
- Centralized inventory
 - http://www.nbds.com/articles/Centralized-vs-Decentralized-Inventory-Management.html
 - Centralized is having the inventory in one location. Many ecommerce merchants use this model.
 - Decentralized is having inventory at multiple locations and each is managed individually.

ERP

- ERP: Enterprise Resource Planning
- Centralized system to handle almost all business processes.

Financial systems

- System to handle a company's finances.
- Microsoft Dynamics

PIM, etc.

- · Product Information Manager
- Centralized repository for storing product information.

4.4 PROMOTIONS

Customer segments

- Promoting to specific customer segments is to increase those customers' use of that coupon (thus engagement with the website) without offering it to everyone (and potentially groups of customers who wouldn't be as profitable).
- Magento EE makes this very simple with the customer segment tool.

Related products

- Related products serve two purposes:
 - · Gives customer other options (golden rule).
 - Try to sell more products.
- Best to be used in a way to educate customer on your other offerings.

4.5 CUSTOMER LOYALTY

Reward points

• Used to incentivize customers coming back.

 Issue is that there needs to be plenty enough points to warrant a customer's return. Many sites do not give enough and this is either ineffective (best) or a turn-off (worst).

Gift accounts

- Gift cards can be an effective way of spreading the news about a brand.
- Often purchased around Christmas if giver doesn't know what the giftee wants from a store.
- Can be a mark of great loyalty to a brand.

4.6 LAWS AND REGULATIONS

Distance selling

- UK requirements for information provided to consumer:
- https://www.gov.uk/online-and-distance-selling-for-businesses

PCI-DSS

- PCI compliance is not a law, but rather an industry self-imposed regulation (saving credit card companies money).
- By processing credit cards, merchants agree to be bound to these regulations.
- These standards touch almost all areas of business to ensure that cardholder data is transmitted securely.

VAT and digital VAT

- https://www.gov.uk/government/publications/vat-supplying-digitalservices-to-private-consumers/vat-businesses-supplying-digitalservices-to-private-consumers
- EU now requires merchants to collect VAT on SaaS products.
- VAT is charged based on shipping address.
- Not required to be visible on the product pages (but it is a good idea).

Cross-border trade

Business to business sales across international lines.

4.7 CATALOG MANAGEMENT

High SKU catalogs

- High numbers of SKUs often affect the performance of managing product collections and their indexes.
- This would manifest itself
 - in the admin panel while editing products
 - in catalog searches
 - in browsing through categories
- With a large number of SKUs, it becomes important to standardize SKU and product naming.

High volume sales

- A high sales volume can bring along performance challenges.
 This means that the entire site is under a (possibly heavy) load and the server / architecture / infrastructure might need to be reconsidered.
- At this point, major customizations and streamlining will need to be made to the fulfillment process.
 - Depending on inventory management, most of the steps to process an order can be automated.
 - Magento EE Database sharding can help reduce the database as a bottleneck.

4.8 USER EXPERIENCE (UX)

See UX section above.

4.9 CUSTOMIZATION VS. NATIVE FEATURES

Repurposing native functions

Effective strategy to take advantage of existing core code as
possible through extending. This carries both pros and cons. Pros
are that the code has already been tested and should be stable;
it also should save time. Cons are that you need to ensure upon
version upgrades that there are no breaking changes.

An example of repurposing native functions is we added the idea
of website reviews onto the product reviews module. Pretty much
the same concept and allowed for the site administrators to add
these reviews using the familiar interface.

Customization strategies

- The least customization possible. Customers don't want to pay more than necessary, and custom coding often brings in defects.
 While an excellent QA team help to mitigate this, there is almost no way to get it 100%.
- The more native functionality that can be reused the better.

4.10 RETURNS (RMA)

- While returns can be very expensive for a company, they give good insight into what a customer thinks of the product.
- Might the product description or photos be inaccurate?
- Might the product be poorly constructed?
- Might the packaging of the product be faulty?
- Might the customer be having buyer's remorse for some reason?
- The number of people who handle returns (if listed on a website)
 often gives an insight into how many issues companies have with
 their products.

4.11 CHECKOUT

- This is the most often abandoned area of the customer journey.
- Companies often have two goals:
 - Get the necessary information to process the order. This competes again:
 - Help the customer checkout as quickly as possible.
- This is where many one-click checkouts have arrived: they help provide the necessary shipping and billing information to the merchant, making the customer's checkout faster.
- Obviously, at the point of the checkout page, customers might still be trying to see what shipping / tax costs or determine other information about their purchase.
 - If this information is made readily accessible beforehand, this might reduce the number of abandoned carts.

4.13 CONVERSION RATE ENHANCEMENT

SEO, native features, and common methodologies

- See related sections above.
- Conversion rate optimization (CRO) involves helping increase the number (percentage) of people that convert their carts into an order.
- Many times what prevents customers from doing this is a poor interface, lacking information or lack of credibility.

QUESTIONS:

What are some of the methods used to gather requirements?

- SMART criteria for setting objectives (https://en.wikipedia.org/wiki/
 SMART_criteria)
- Questions
 - Who to ask questions to?
 - What do you need it to do?
 - Who is going to use it?
 - · How many people will be using it?
 - What is the budget?
 - What is the ROI?
- Google Analytics / New Relic
- Magento details:
 - Order volume
 - System Configuration > Advanced
 - Look through menus, compare against vanilla
 - Look in app/etc/modules
 - Click through the website: left sidebar and top are highest priority often.

In a multi-site infrastructure, what is the reach of "Global" scope?

• It is one value for all websites, stores, and store views.

What is required to display prices in several currencies?

- Stores > General > Currency Setup > Scheduled Import Settings
 - Enabled: Yes
 - Service: your choice
- Stores > General > Currency Setup > Currency Options
 - Ensure Default Display Currency and Base Currency are accurate
 - Select currencies from Allowed Currencies
- http://www.krishtechnolabs.com/insight/using-multiple-currenciesin-magento-a-critical-overview/

Why would a merchant enable cross-border taxes?

• If legal compliance is required.

What is meant by "Master Data Record"?

 A unique identifying number. This also could be called a primary key.

How might customer segmentation be used with product discounts?

• To offer discounts to specific groups of customers.

 Segments who have possibly demonstrated their loyalty in the past are rewarded.

What is Personally Identifiable Information?

- Data that could be used to identify a person.
- Could be:
 - Name
 - Email
 - Address
 - Driver's license
 - DOB
- https://en.wikipedia.org/wiki/Personally_identifiable_information

How does the European Union (EU) requirements for data protection differ from US requirements?

- EU has been more protective than the US.
- https://en.wikipedia.org/wiki/International_Safe_Harbor_
 Privacy Principles
- The easiest and safest is to not store European customer data in the United States. This is often not possible and might require additional research to determine what is proper given the situation.

What are VAT and digital VAT?

- VAT is value added tax.
 - This is a tax at various levels during the manufacturing / distributing processes.
- Digital VAT is a tax on digital goods sold.

Does a software company based in the US need to charge EU customers VAT on its downloadable products?

· Yes, they should.

In UX terms, what is meant by a "persona"?

- An aggregated person as an example of who you are marketing to.
- This might be a female in her 30s that works at XYZ company.
- Personas help visualize who you are trying to reach.
- Better yet, interact with actual people.

In UX, what is meant by a triple A ("AAA") rating?

- Conformance to the WCAG 2.0 (https://www.w3.org/TR/
 WCAG/#conformance).
- This is a web accessibility standard, ensuring that a webpage or website is accessible by assistive devices.

A customer wants to display a CMS block on category pages. What would be the most efficient way to implement that?

• Browse to Category.

- Display Settings > Set Display Mode to be Static block and Products.
- Content > Add CMS Block to be the static block you would like displayed.

What payment method(s) would you recommend as the easiest technical solution to satisfy PCI requirements?

- Paypal Express: this transfers all cardholder data liability to PayPal.
- Second best: Braintree and Payflow Link.

A customer wants the ability to preview product information pages in the production environment before making them live. Which Magento 2 Enterprise Edition module would you recommend to satisfy this need?

Content Staging

A merchant uses a Magento 2 system, along with other online interfaces, as part of a multichannel business, and the merchant uses a business intelligence application to aggregate data from all these systems. Which native features would allow the merchant to integrate Magento with this application?

• The data can be obtained from Magento via it's API.

In what two ways can a returns process be invoked?

Admin panel (by a CSR)

Customer account (by a customer)

A merchant wants to integrate Magento 2 with an order management system. What native features would they need to use to achieve this?

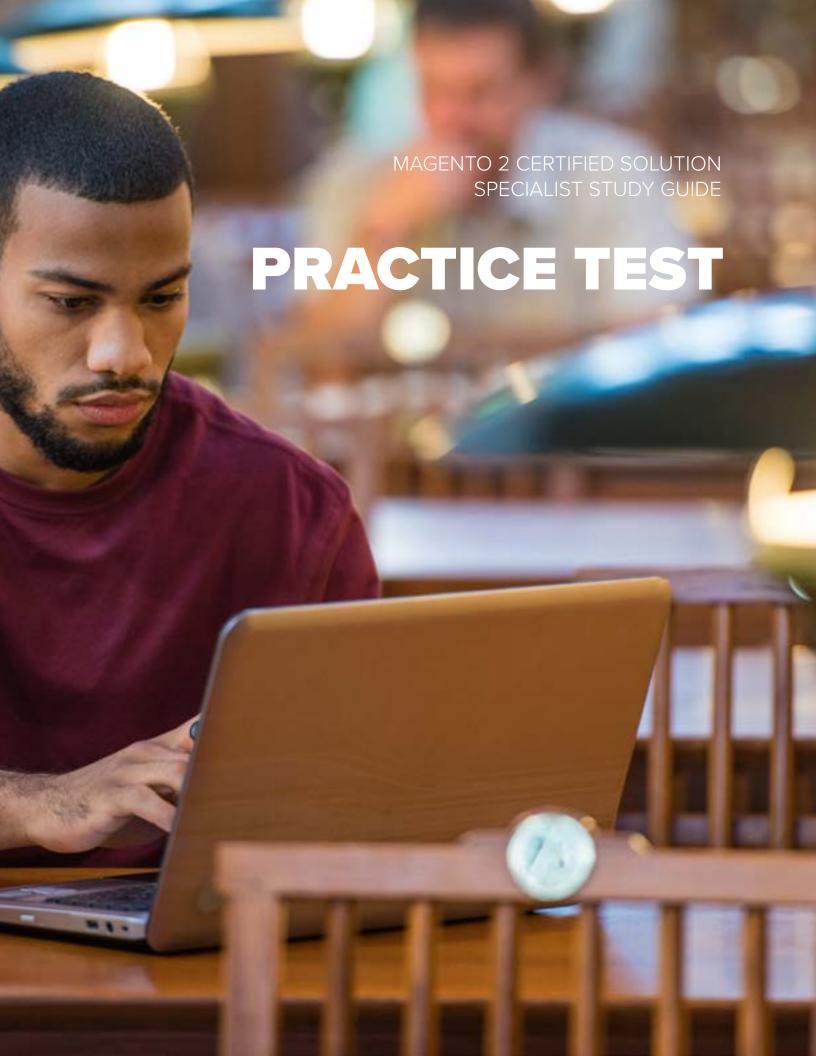
- Many order management systems will have a Magento module.
- If they don't have a module, they might have the capability to push and pull data from Magento's API.
- If API integration doesn't exist, there is likely a third-party vendor that has an integration (Xtento, for example).
- If a third-party integration doesn't exist, it will likely require a customization.

A merchant has left all the image alt tags blank throughout their site. Why is this a bad idea, and what would you recommend?

- Not all users browse the site with a mouse and a screen.
 For accessibility, it is very important that all images have an understand label in the alt attribute. In addition, search engines need the alt tags populated to give an idea as to what is presented in the image. While search engines are getting better at understanding objects in the image, they will likely never understand the intent of an image without this information.
- As soon as is possible, all image alt tags should be populated across the website.

Application of Knowledge

- Magento Community Edition and Enterprise Edition User Guides
 Magento Help: Support, Documentation, Forum
- Magento eCommerce Webinars
- Magento U courses: eCommerce with Magento, Managing your
 Magento Store, Stepping Up Sales with Magento Promotions
 and Discounts



MAGENTO 2 CERTIFIED SOLUTION SPECIALIST PRACTICE TEST

<u>Take a practice test for the Magento 2 Certified Solution Specialist</u> certification. 36 questions. Free. Immediate feedback.



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