Cliff notes

Google Cloud Business Essentials Certificate

Consists of:

A. Business Transformation with Google Cloud – 1-week course
B. Google Cloud Product Fundamentals – 7-week course

A. Business Transformation with Google Cloud
    a. Week 1
        i. Module 1
            1. Lesson 1 – Innovations through history and their impact
            2. Lesson 2 – Cloud Technology and next business revolution
            3. Lesson 3 – Trends in compute power and data science
            4. Lesson 4 – Access to superpowers of the cloud
            5. Lesson 5 – Use of superpowers of cloud for your business
            6. Key learning points:
                a. Major innovations in the past transformed supply and demand
                b. The five superpowers of the cloud which enables and redefines the ways we operate in every industry and for every activity:
                    i. Collaborate – working together from many devices seamlessly with invisible version control
                    ii. Perceive – perceive cancer in x-rays, perfect profile out of many resumes, perceive the bottleneck in the supply chain
                    iii. Categorise – Categorising unstructured data such as pictures or videos,
                    iv. Recommend - recommend the most interesting or useful next step in a recurring process. E.g. Spotify and Netflix recommendations or the house you want to buy. Can support gut feelings or business instinct
                    v. Predict - predict which flu virus will cause the most deaths, predict energy consumption of data centres and reduce energy bill
                c. Businesses who leap from their current technology and processes (burning platform) onto the next
                d. Successful organisations have a mission focused on the 'why' and not the 'how', they embrace new technology and new technology makes them better
                e. Compute and data innovation are driving transformation globally

    ii. Module 2
1. Lesson 1 – The 'Garage mindset'
2. Lesson 2 – Todays multi-faceted challenge: Culture and business practices
3. Lesson 3 – How to apply the garage mindset in your organisation
4. Key learning points:
   a. Garage mindset =
      i. Freedom to innovate
      ii. Launch and iterate
      iii. Continuous learning
         1. Learn from colleagues
         2. Learn from third parties
         3. Knowledge sharing
         4. Bumping into people and having collaborative space and tools (post its and white boards) available
         5. Celebrate learnings
   b. Innovation culture:
      i. Define a mission that matters, the why
      ii. Promoted continuous learning
      iii. Enable innovation through psychological safety
         1. No fear of failure or judgement
         2. Can ask any questions including 'what is the purpose of this?'
   c. Managers must:
      i. Encourage the team
      ii. Help them thrive
      iii. Support from side-lines
      iv. Coach, don't jump in and solve
      v. Don't micromanage
      vi. Share thoughts including doubts and fears
   d. Innovation principles:
      i. Focus on the user / customer
      ii. Think 10x / big ideas
      iii. Launch and iterate coupled with freedom to innovate
   e. User expectation
      i. Access – faster, easier, everywhere, always on
      ii. Engagement - sources of valued content, up to date, reliable, multiple fields of expertise
      iii. Customisation – seamlessly adapts to their individual needs or preferences
      iv. Communication – two-way feedback, input fuels growth of the company,

iii. Module 3
1. Lesson 1 – improvements versus transformations
2. Lesson 2 - Writing a strong transformation challenge
3. Lesson 3 - Unlock the value of your data
4. Lesson 4 - A transformation framework for your business challenges
5. Lesson 5 - Apply the transformation framework to assess your own business challenges
6. Key learning points:
   a. Frame your transformation as question which
      i. Aims straight
      ii. Shoots for the moon
      iii. Look at it from different personas
      iv. Subtract a core component of your question and see if it improves
   b. Unlock the data
      i. User data is the first bucket – customers and employees and users
         1. Demographics, user financial history, previous user interactions
      ii. Corporate data is the second bucket
         1. Sales by financial product, sales conversation call logs, performance metrics of financial portfolios
      iii. Industry data is the third bucket
         1. Industry benchmarking, stock performance, investment trends
   c. Transformation ideas fall into a two by two
      i. Horizontal axis = quick vs scaled
      ii. Vertical axis = Improvement vs 10x
         1. Quick win = quick and 10x
         2. Development = scaled and Improvement
         3. Disruption = Quick and Improvement
         4. Transformation = scaled and 10x

    iv.   Module 4
1. Lesson 1 - Fundamental terms
2. Lesson 2 - Todays cybersecurity challenges
3. Lesson 3 - The shared responsibility model
4. Lesson 4 - Building a high-level security program in your organisation
5. Key learning points:
   a. Using G suite has 5 commitments
      i. Know that security comes first in everything they do
      ii. Client control what happens with their data
      iii. Google is transparent about where your data is stored
      iv. You can depend on googles independently verified security controls, policies and procedures
      v. Google never gives any government entity backdoor or unlawful access to your data or servers.
   b. Today's cyber challenges:
      i. Constant criminal attacks
      ii. Phishing attackers
         1. Highly targeted emails
      iii. Malware, viruses and ransomware attacks
      iv. Unsecured third-party systems
      v. Lack of expert knowledge
   c. Google's responsibility for Security
      i. Operations layer - Teams of people focused on security
      ii. Titan chip on all servers protecting them
      iii. Encryption in transit and in storage
      iv. Zero trust – everything must be authenticated and authorised
   d. Client responsibility for security
      i. Cannot be treated in the same way that it was
      ii. Control access
         1. Who can access the data?
         2. Granular access policies
         3. Use security keys complement password protection
      iii. Maintain visibility
         1. Who is accessing and when?
         2. Logging and monitoring
      iv. Be prepared for breaches
         1. Situational awareness
         2. Create an open blameless culture
         3. Maintain operational readiness

e. Google and compliance
   i. ISO 27000 family of security standards. Google adopts the below three standards
      1. ISO 27001 = foundational security standards
      2. ISO 27017 is cloud specific security
      3. ISO 27108 is cloud specific data privacy
   ii. Google complies with GDPR
   iii. Google complies with HIPAA = Healthy insurance and portability and accountability act
   iv. Google complies with Business associate's agreement
f. What clients must think about:
   i. What are the cloud security capabilities?
   ii. Who owns the data?
   iii. How is the cloud provider using your data?
   iv. What if there's a data incident
   v. What about data deletion
   vi. Will your data be portable?
   vii. What type of data will you be storing in t 4h cloud?
   viii. What is the data stored?
   ix. Does the cloud provider allow third party security audits?
g. Building a high-level security programme in your organisation:
h. Identify the data categories or data buckets
i. After you categorise your data, classify each bucket by sensitivity level
j. There may be regulations around the security and privacy of each data category that you need to comply with
k. List the general or specific roles within your organisation that will need access to the data you've identified
l. For each role determine access controls for the data

  v. Module 5
    1. Lesson 1 - Identifying the ideal solution for your challenge
    2. Lesson 2 - Plotting the steps to your solution on a roadmap
    3. Lesson 3 - Building a data strategy to support your project
    4. Lesson 4 - Building your business case
    5. Lesson 5 - How can you socialise your project to build momentum
    6. Key learning points:
      a. Three step criteria to choosing a solution:
        i. Feasibility
        ii. Differentiation
        iii. Business impacts
      b. Break down solution into smaller projects
      c. Plot the projects on a transformation roadmap
        i. Deliver roadmap in this order:
          1. Quick win ->
          2. Disruption ->
          3. Development ->
          4. Transformation
      d. Data strategy
        i. Customer / user, Corporate and Industry
        ii. Think about the data you need to prove your transformation challenge
        iii. Think about other uses for the data beyond your transformation challenge
      e. Business case
        i. Description
        ii. Outcome
        iii. Success Metrics
        iv. Constraints
        v. Target Environment
      f. Socialise your projects and build momentum
        i. Clear message for leadership buy in
        ii. Comms material for everyone
        iii. Clear consumable and comprehensive
        iv. Clear concise and comprehensive
        v. One slide that summarises the project
        vi. Name should be simple, memorable and 2 to 3 words long
        vii. Slogan should be catchy sentence
        viii. Pitch
          1. How does the project meet your orgs objective?
          2. How does the project meet your mission or success criteria?
          3. How does the project create new value for your business?

B. Google Cloud Product Fundamentals
  a. Week 1
    i. L1 - Welcome
  b. Week 2
    i. L1 - Introduction
    ii. L2 - Single hybrid and multi cloud
    iii. L3 - Security with GCP
    iv. L4 - Compute with GCP
    v. Learning points from the quiz:
      1. A resource inherits the policies of its project
      2. Hybrid cloud is on prem and public cloud
      3. App Engine = Platform as a service
      4. Infrastructure as a service = maintenanc3 work is outsourced to the cloud provider
      5. Benefit of compute engine is rapid autoscaling
  c. Week 3
    i. L1 - Introduction
    ii. L2 – Application development
    iii. L3 - Storage
    iv. Learning points from the quiz:
      1. Migration to cloud strategy:
        a. Greenfield = build target and forget current
        b. Brownfield = Build target knowing current must fit within it
        c. Move then change
        d. Change then move
      2. Microservices are modular and easy to update
      3. Continuous integration / continuous deployment increases application release velocity and reliability
      4. Structured data = customer data with names, and addresses
      5. Cloud Storage is used for images and multimedia files
  d. Week 4
    i. L1 - Introduction
    ii. L2 – Machine Learning
    iii. L3 – Real world use cases for ML
    iv. L4 – AI and ML with GCP
    v. Learning points from the quiz:
      1. With ML, the same algorithm can be used to train different models, depending on the data it is shown
      2. Best applications for ML are predictive, helps to make a decision now… such as real time inventory management
      3. Google APIs on GCPs AIA hub help develop ML models needed with the expertise available
      4. To improve the coverage of a model, more examples from current datasets should be sought
      5. A dashboard showing historical data is not machine learning. Machine learning is future and predictive

  e. Week 5
    i. L1 - Introduction
    ii. L2 – How G Suite transforms organisations
    iii. L3 – Impact of G Suite
    iv. Learning points from the quiz:
      1. Multiple colleagues feeding into the same document helps people work faster
      2. Sharing data helps people make well informed decisions confidently
      3. Hangouts create a collaborative culture
      4. Sharing data on google data drive to the required people delivers productivity
      5. G-suite helps your organisation in four ways:
        a. Revenue growth
        b. Risk mitigation
        c. It cost savings
        d. Employee efficiency

  f. Week 6
    i. L1 - Introduction
    ii. L2 – Fundamentals of cloud cost management
    iii. L3 – Total cost of ownership with cloud
    iv. L4 – Best practices for managing GCP costs
    v. Learning points from the quiz:
      1. According to a RightScale study from Flexera, businesses estimated they were wasting 27% of their cloud spend, when in fact according to Flexera, they were wasting 35% of their cloud spend
      2. Financial management can't be a monthly activity completed by a Finance Business Partner, it must be a regular, daily activity completed by Finance, Business, IT… all parties involved aware of and managing total cost of ownership.
      3. GCP Tools offer four key benefits for managing cloud costs:
        a. Visibility
        b. Accountability control
        c. Intelligent recommendations
      4. A custom dashboard would give greater visibility into costs
      5. Sharing cost views promotes a culture of accountability for costs
      6. With cloud, budgeting needs to be assessed more frequently
      7. Moving to the cloud, when considering total cost of ownership, Data centre hardware costs are removed from a client's books.

  g. Week 7
    i. Wrap up