Unleashing the Power of AI Tools for Business

**Workshop Series: Unleashing the Power of AI Tools for Business**

**Target Audience:** Business Knowledge Workers (Manufacturing, Operations, etc.)

**Overall Goal:** To empower participants to leverage AI tools (Perplexity AI, Google Gemini, OpenAI, NotebookLM) for immediate operational improvements and knowledge management within their organizations.

**Workshops:**

1. **Mastering Perplexity AI for Business Insights and Research**
2. **Harnessing Google Gemini for Enhanced Productivity and Collaboration**
3. **Leveraging OpenAI for Custom AI Solutions and Automation**
4. **Building a Company Brain with Google NotebookLM: Knowledge Management Revolution**
5. **Connecting the Dots: Interoperability and Advanced AI Workflows (Perplexity, Gemini, OpenAI, NotebookLM)**

**Workshop 1: Mastering Perplexity AI for Business Insights and Research**

**Duration:** 1 Full Day (6-8 hours)

**Module Breakdown:**

**Module 1: Introduction to Perplexity AI (Duration: 45 minutes)**

* **Purpose/Learning Objectives:**
  + Understand what Perplexity AI is and its core functionalities.
  + Learn the benefits of using Perplexity AI for business research and insights.
  + Compare Perplexity AI to traditional search engines and other AI tools.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account (Free tier is sufficient)
  + Workshop Handout (digital or printed)
* **Execution Steps / Guided Exercises:**
  + **Exercise 1.1: Account Setup and Interface Exploration:**
    - **Objective:** Create a Perplexity AI account and navigate the user interface.
    - **Steps:**
      1. Go to [perplexity.ai](http://perplexity.ai) and sign up for a free account.
      2. Explore the main interface: search bar, Co-Pilot feature, Recent Activity, Collections.
      3. Familiarize yourself with the settings and customization options.
  + **Exercise 1.2: Basic Search and Information Retrieval:**
    - **Objective:** Conduct basic searches and understand how Perplexity AI presents information.
    - **Steps:**
      1. Enter a general business-related query (e.g., "latest trends in supply chain management").
      2. Observe the search results: concise answer, sources cited, follow-up questions.
      3. Click on source citations to verify information.
      4. Use the "Ask a Follow-up" feature to refine the search.
* **Trainer Notes / Teaching Notes:**
  + Emphasize the difference between Perplexity AI's answer synthesis and traditional search engine result lists.
  + Highlight the importance of verifying information through source citations.
  + Encourage participants to explore different search functionalities (e.g., image search, academic search).

**Module 2: Advanced Search Techniques and Co-Pilot Feature (Duration: 1 hour 15 minutes)**

* **Purpose/Learning Objectives:**
  + Learn how to use advanced search operators and filters for precise results.
  + Understand the capabilities of Perplexity AI's Co-Pilot feature for guided research.
  + Apply search techniques to business-specific scenarios.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 2.1: Mastering Advanced Search Operators:**
    - **Objective:** Use search operators (e.g., site:, filetype:, inurl:) to narrow down search results.
    - **Steps:**
      1. Demonstrate the use of operators:
         * site:example.com (search within a specific website)
         * filetype:pdf (search for PDF documents)
         * "exact phrase" (search for an exact phrase)
      2. Participants try different operators with business-related queries (e.g., "supply chain risk management site:mckinsey.com").
  + **Exercise 2.2: Utilizing the Co-Pilot for Guided Research:**
    - **Objective:** Use the Co-Pilot feature to explore a topic in depth.
    - **Steps:**
      1. Start a new search with Co-Pilot enabled (toggle the "Co-Pilot" switch).
      2. Enter a business question (e.g., "What are the potential benefits and risks of implementing AI in a manufacturing plant?").
      3. Observe how Co-Pilot asks clarifying questions and refines the search.
      4. Analyze the synthesized answers and source citations provided by Co-Pilot.
* **Trainer Notes / Teaching Notes:**
  + Explain the power of advanced search operators for targeted research.
  + Emphasize the iterative nature of research with Co-Pilot – it's a conversation, not just a single query.
  + Encourage participants to experiment with different Co-Pilot modes (e.g., concise, detailed).

**Module 3: Using Perplexity AI for Competitive Analysis (Duration: 1 hour)**

* **Purpose/Learning Objectives:**
  + Learn how to use Perplexity AI to gather information about competitors.
  + Analyze competitor strategies, products, and market positioning.
  + Identify opportunities and threats in the competitive landscape.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 3.1: Competitor Profiling:**
    - **Objective:** Create a profile of a competitor using Perplexity AI.
    - **Steps:**
      1. Choose a competitor in your industry.
      2. Use Perplexity AI to research the competitor's products, services, market share, and recent news.
      3. Compile the information into a competitor profile document (using a template provided or their own).
  + **Exercise 3.2: Identifying Competitive Advantages and Disadvantages:**
    - **Objective:** Analyze the competitor's strengths and weaknesses based on the research.
    - **Steps:**
      1. Based on the competitor profile, identify their key strengths and weaknesses.
      2. Use Perplexity AI to search for customer reviews and feedback on the competitor's products/services.
      3. Summarize the competitive advantages and disadvantages in the profile document.
* **Trainer Notes / Teaching Notes:**
  + Emphasize the ethical considerations of competitive intelligence gathering.
  + Highlight the importance of combining Perplexity AI research with other sources of information.
  + Provide examples of competitive analysis frameworks (e.g., SWOT analysis).

**Module 4: Knowledge Management and Collections (Duration: 1 hour 30 minutes)**

* **Purpose/Learning Objectives:**
  + Understand how to organize and manage information using Perplexity AI Collections.
  + Learn how to share collections with colleagues and teams.
  + Apply Collections to build a business knowledge base.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 4.1: Creating and Organizing Collections:**
    - **Objective:** Create collections to organize research findings.
    - **Steps:**
      1. Create a new collection in Perplexity AI.
      2. Search for information related to a specific business topic (e.g., "AI in manufacturing").
      3. Save relevant search results and web pages to the collection.
      4. Organize the saved items within the collection using folders or tags.
  + **Exercise 4.2: Sharing and Collaborating on Collections:**
    - **Objective:** Share collections with team members and collaborate on research.
    - **Steps:**
      1. Share a collection with other participants in the workshop.
      2. Experiment with adding comments and notes to the shared collection.
      3. Discuss the benefits of using Collections for collaborative knowledge management.
  + **Exercise 4.3: Building a Business Knowledge Base with Collections:**
    - **Objective:** Design a knowledge base structure using Perplexity AI Collections.
    - **Steps:**
      1. Identify key knowledge areas within their business (e.g., market research, product development, customer service).
      2. Create a collection for each knowledge area.
      3. Populate the collections with relevant research findings and articles.
      4. Discuss how this knowledge base can be used to improve decision-making and efficiency.
* **Trainer Notes / Teaching Notes:**
  + Emphasize the importance of a well-organized knowledge base for effective knowledge management.
  + Provide examples of different collection structures and organizational strategies.
  + Discuss the benefits of sharing knowledge within teams and across the organization.

**Module 5: Perplexity AI for Content Creation and Summarization (Duration: 1 hour)**

* **Purpose/Learning Objectives:**
  + Learn how to use Perplexity AI to generate content outlines and summaries.
  + Understand the limitations of AI-generated content and the importance of human oversight.
  + Apply Perplexity AI to improve content creation workflows.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 5.1: Generating Content Outlines:**
    - **Objective:** Use Perplexity AI to create outlines for business reports or presentations.
    - **Steps:**
      1. Enter a topic for a business report or presentation (e.g., "The future of automation in manufacturing").
      2. Ask Perplexity AI to generate an outline for the topic.
      3. Evaluate the generated outline and make adjustments as needed.
  + **Exercise 5.2: Summarizing Documents and Articles:**
    - **Objective:** Use Perplexity AI to summarize long documents or articles.
    - **Steps:**
      1. Find a long business article or document online.
      2. Use Perplexity AI to summarize the content.
      3. Compare the AI-generated summary to the original document.
      4. Discuss the accuracy and completeness of the summary.
* **Trainer Notes / Teaching Notes:**
  + Emphasize that AI-generated content should be used as a starting point, not a finished product.
  + Highlight the importance of fact-checking and verifying information generated by AI.
  + Discuss the ethical considerations of using AI for content creation.

**Module 6: Troubleshooting and Best Practices (Duration: 30 minutes)**

* **Purpose/Learning Objectives:**
  + Identify common issues and errors when using Perplexity AI.
  + Learn troubleshooting techniques and best practices for effective use.
  + Understand ethical considerations when using AI tools.
* **Materials Needed:**
  + Workshop Handout (includes troubleshooting tips and best practices)
* **Execution Steps / Guided Exercises:**
  + **Discussion:**
    - Discuss common issues encountered during the workshop (e.g., inaccurate information, ambiguous search results).
    - Brainstorm solutions and troubleshooting techniques.
  + **Review:**
    - Review best practices for using Perplexity AI (e.g., clear and specific search queries, verifying information, using Collections for organization).
    - Discuss ethical considerations (e.g., citing sources, avoiding plagiarism, responsible use of AI-generated content).
* **Trainer Notes / Teaching Notes:**
  + Provide a list of common troubleshooting tips in the workshop handout.
  + Encourage participants to share their own experiences and best practices.
  + Emphasize the ongoing learning process and the need to stay updated on AI advancements.

**Example: Analogies & Real Examples (Inspired by PDF Level 1)**

* **Analogy for Perplexity AI:** Think of Perplexity AI as a "super-powered research assistant" who not only finds information but also synthesizes it into a concise answer, saving you time and effort.
* **Real Example:** A manufacturing company could use Perplexity AI to research the latest trends in predictive maintenance to reduce downtime and improve efficiency. They could also use it to analyze competitor strategies for adopting new technologies.

**Content Presentation & Formatting:**

* Use clear headings and subheadings for each module and exercise.
* Employ bullet points and numbered lists for step-by-step instructions.
* Use bold text to highlight key terms and concepts.
* Incorporate screenshots and visuals where appropriate.

**Learner Support:**

* Include a section in the Workshop Handout with troubleshooting tips and FAQs.
* Provide email or online forum support after the workshop.

**Next Steps:**

1. **Develop similar module breakdowns for Workshops 2-5 (Gemini, OpenAI, NotebookLM, Interoperability).**This will include specific exercises, examples, and trainer notes tailored to each tool.
2. **Create detailed handouts for each workshop**, including all the information and instructions provided in the module breakdowns.
3. **Design presentation slides** to accompany the workshops.
4. **Develop any necessary templates or resources** (e.g., competitor profile template).
5. **Test and refine the materials** based on feedback from pilot workshops..

Tab 14

Tab 2

**Workshop 1: Mastering Perplexity AI for Business Insights and Research**

**Module 2: Advanced Search Techniques and Co-Pilot Feature (Duration: 1 hour 15 minutes)**

**Sub-Module 2.1: Mastering Advanced Search Operators (Duration: 30 minutes)**

* **Purpose/Learning Objectives:**
  + Understand the concept of search operators and their function in refining search queries.
  + Learn how to use specific search operators (e.g., site:, filetype:, inurl:, "") to narrow down search results.
  + Apply search operators to business-specific research scenarios.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed)
* **Execution Steps / Guided Exercises:**
  + **Exercise 2.1.1: Introduction to Search Operators (Concept & Demonstration)**
    - **Objective:** Understand what search operators are and how they enhance search precision.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Analogy: "Think of search operators like filters in a coffee machine – they let you extract the exact information you need from a large amount of data."
        2. Explain that operators are special commands that refine searches beyond simple keywords.
        3. Demonstrate a basic example: Search "marketing strategies" vs. "marketing strategies"(with quotes). Show how quotes force an exact phrase match.
        4. Discuss how exact phrase matching can help SMBs find specific marketing advice.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Analogy: "Search operators are like using precise tools in a workshop – they allow you to target specific information with accuracy."
        2. Explain that operators help navigate the complexity of technical terminology and documentation.
        3. Demonstrate using filetype:pdf to find technical datasheets or standards documents.
        4. Discuss the importance of accessing specific document types in the manufacturing sector.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Analogy: "Search operators are like adding instructions to your search to get a better answer – like telling the search engine exactly what you're looking for."
        2. Keep explanations simple and non-technical.
        3. Demonstrate site: operator to search within a trusted website (e.g., site:sba.gov small business loans).
        4. Explain that this helps focus on reliable information sources.
  + **Exercise 2.1.2: Hands-on Practice with Key Operators**
    - **Objective:** Apply site:, filetype:, inurl:, and "" operators in practical scenarios.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Scenario: "Find a free marketing template on the Canva website."
        2. Use site:canva.com filetype:pdf marketing template
        3. Guide participants through building the query step-by-step.
        4. Discuss other potential scenarios (e.g., finding competitor pricing information).
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Scenario: "Find the latest safety regulations for welding from OSHA's website."
        2. Use site:osha.gov filetype:pdf "welding safety regulations"
        3. Emphasize the importance of precise wording and regulatory compliance.
        4. Discuss using inurl: to find specific sections within websites.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Scenario: "Find the definition of 'supply chain management' on Investopedia."
        2. Use site:investopedia.com "supply chain management" define
        3. Break down the query into understandable parts.
        4. Encourage participants to try other definitions.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize the power of combining operators for refined searches.
  + **SMBs:** Focus on practical applications for cost savings and competitive advantage.
  + **Manufacturing:** Stress the importance of accuracy and regulatory compliance.
  + **Non-Technical:** Keep explanations simple and avoid overwhelming with too many operators at once.

**Sub-Module 2.2: Unleashing the Power of Co-Pilot (Duration: 45 minutes)**

* **Purpose/Learning Objectives:**
  + Understand the functionality of Perplexity AI's Co-Pilot feature for guided research.
  + Learn how to effectively use Co-Pilot to explore topics in depth and refine search queries.
  + Apply Co-Pilot in business-relevant scenarios for gathering comprehensive information.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 2.2.1: Introduction to Co-Pilot & Basic Usage**
    - **Objective:** Activate Co-Pilot and understand its interactive search process.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Show how to toggle "Co-Pilot" ON before starting a search.
        2. Start with a general question relevant to SMBs: "What are the key steps to create a successful business plan?"
        3. Demonstrate how Co-Pilot asks clarifying questions (e.g., "What type of business is this for?").
        4. Explain that this interactive process helps narrow down the search and get more tailored results.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Emphasize the value of Co-Pilot for exploring complex technical topics.
        2. Ask a question like: "What are the latest advancements in industrial robotics for welding applications?"
        3. Show how Co-Pilot prompts for specifics (e.g., "What type of materials are you welding?").
        4. Explain that these prompts ensure the information is relevant to the user's specific situation.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Frame Co-Pilot as a "helpful conversation partner" for research.
        2. Start with a broad question: "How can I improve my time management skills?"
        3. Highlight how Co-Pilot breaks down the question into smaller, manageable steps (e.g., "What are your biggest time management challenges?").
        4. Reassure participants that Co-Pilot makes research less intimidating.
  + **Exercise 2.2.2: Applying Co-Pilot for In-Depth Research**
    - **Objective:** Use Co-Pilot to explore a topic in depth, refining queries based on its prompts.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Scenario: Researching marketing automation tools.
        2. Initial Question: "What are the best marketing automation tools for a small business?"
        3. Guide participants through Co-Pilot's questions and how to answer them (e.g., "What's your budget?", "What marketing channels do you use?").
        4. Discuss how Co-Pilot helps identify the most suitable tools for their specific needs.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Scenario: Evaluating the feasibility of implementing a new quality control process.
        2. Initial Question: "What are the benefits of implementing a statistical process control (SPC) system in a manufacturing plant?"
        3. Work through Co-Pilot's prompts (e.g., "What type of products do you manufacture?", "What are your current quality control metrics?").
        4. Demonstrate how Co-Pilot helps assess the ROI of the implementation.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Scenario: Understanding the basics of cybersecurity.
        2. Initial Question: "What are the key cybersecurity threats for a small business?"
        3. Navigate Co-Pilot's questions in simple terms (e.g., "What type of data do you handle?", "How do you currently protect your computers?").
        4. Emphasize that Co-Pilot breaks down a complex topic into understandable components.
* **Trainer Notes / Teaching Notes:**
  + **General:** Highlight the iterative nature of research with Co-Pilot and encourage experimentation.
  + **SMBs:** Focus on using Co-Pilot to identify cost-effective solutions.
  + **Manufacturing:** Emphasize the importance of precision and industry-specific information.
  + **Non-Technical:** Reassure participants that it's okay to ask clarifying questions and refine the search as they go.

Tab 3

**Workshop 1: Mastering Perplexity AI for Business Insights and Research**

**Module 3: Using Perplexity AI for Competitive Analysis (Duration: 1 hour)**

**Sub-Module 3.1: Identifying Key Competitors (Duration: 20 minutes)**

* **Purpose/Learning Objectives:**
  + Identify key competitors within a specific market or industry.
  + Develop search strategies for gathering information on competitors using Perplexity AI.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed)
* **Execution Steps / Guided Exercises:**
  + **Exercise 3.1.1: Brainstorming & Competitor Selection**
    - **Objective:** Identify at least 3 key competitors for a hypothetical or real business.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Use a hypothetical scenario (e.g., a local coffee shop, an online bookstore) or have participants focus on their own business.
        2. Brainstorm direct and indirect competitors (e.g., other coffee shops, larger chains, online retailers).
        3. Emphasize local competition as relevant to SMBs.
        4. Select 3 key competitors for further research.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Focus on a specific manufacturing sector (e.g., automotive parts, food processing, industrial machinery).
        2. Identify competitors based on market share, product offerings, or technological innovation.
        3. Encourage participants to consider both domestic and international competitors.
        4. Select 3 key competitors in the chosen sector.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Choose a well-known industry or market (e.g., fast food, online streaming services).
        2. Brainstorm easily recognizable competitors within that market (e.g., McDonald's, Burger King; Netflix, Hulu).
        3. Select 3 familiar competitors for simplicity.
  + **Exercise 3.1.2: Developing Search Strategies for Competitor Research**
    - **Objective:** Develop specific search queries for gathering information on the selected competitors.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Discuss potential search areas (e.g., pricing, marketing strategies, customer reviews).
        2. Develop specific search queries using competitor names and keywords (e.g., "Competitor A pricing," "Competitor B marketing tactics").
        3. Explore using local search terms (e.g., "Competitor A [city] reviews").
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Focus on technical and industry-specific search areas (e.g., patents, certifications, production capacity).
        2. Develop queries using precise terminology (e.g., "Competitor C ISO 9001 certification," "Competitor D robotic automation").
        3. Explore using industry databases and publications as potential sources.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Focus on readily accessible information (e.g., website content, news articles, social media presence).
        2. Develop simple search queries (e.g., "Competitor E website," "Competitor F news," "Competitor G social media").
        3. Emphasize the importance of understanding competitor offerings and messaging.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize the importance of ethical competitive intelligence gathering.
  + **SMBs:** Focus on practical, actionable insights that can be gained with limited resources.
  + **Manufacturing:** Highlight the value of technical and industry-specific information.
  + **Non-Technical:** Keep search strategies simple and focus on readily available information.

**Sub-Module 3.2: Analyzing Competitor Strategies and Market Positioning (Duration: 25 minutes)**

* **Purpose/Learning Objectives:**
  + Use Perplexity AI to gather information about competitor strategies, products, and services.
  + Analyze competitor market positioning and identify their strengths and weaknesses.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 3.2.1: Competitive Research with Perplexity AI**
    - **Objective:** Conduct searches using the previously developed queries and gather information on competitors.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Use Perplexity AI to research competitor pricing, marketing efforts, and online presence.
        2. Focus on identifying areas where the SMB can differentiate itself.
        3. Discuss how Perplexity AI’s concise answers can save time in competitive research.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Use Perplexity AI to research competitor technologies, certifications, and sustainability initiatives.
        2. Focus on identifying areas where the SMB can gain a competitive edge through innovation or compliance.
        3. Emphasize the importance of verifying information from multiple sources.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Use Perplexity AI to research competitor products, services, and customer reviews.
        2. Focus on understanding competitor offerings and how they are perceived by customers.
        3. Highlight the ease of using Perplexity AI to get a quick overview of competitors.
  + **Exercise 3.2.2: Identifying Strengths and Weaknesses**
    - **Objective:** Analyze the gathered information to identify competitor strengths and weaknesses.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Create a simple SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis for each competitor based on the research.
        2. Focus on identifying actionable insights for the SMB’s strategy.
        3. Discuss how the SMB can leverage competitor weaknesses and opportunities.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Analyze competitor strengths in areas like technology, production efficiency, or market share.
        2. Identify competitor weaknesses in areas like sustainability, regulatory compliance, or supply chain management.
        3. Focus on opportunities for the SMB to innovate or differentiate itself.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Focus on simple comparisons of competitor products, services, and customer perceptions.
        2. Identify areas where each competitor excels and areas where they could improve.
        3. Discuss how the SMB can learn from competitor successes and avoid their mistakes.
* **Trainer Notes / Teaching Notes:**
  + **General:** Provide examples of SWOT analysis and other competitive analysis frameworks.
  + **SMBs:** Emphasize practical applications and cost-effective strategies.
  + **Manufacturing:** Focus on technical advantages and industry trends.
  + **Non-Technical:** Keep the analysis straightforward and focus on easily understandable information.

**Sub-Module 3.3: Competitive Intelligence Reporting (Duration: 15 minutes)**

* **Purpose/Learning Objectives:**
  + Develop a basic competitive intelligence report using information gathered from Perplexity AI.
  + Understand how to present competitive insights in a clear and concise format.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
  + (Optional) Template for Competitive Intelligence Report
* **Execution Steps / Guided Exercises:**
  + **Exercise 3.3.1: Creating a Competitive Intelligence Report Outline**
    - **Objective:** Structure a basic report with key sections for presenting competitive findings.
    - **All Options:**
      * Suggest a simple report outline:
        1. Executive Summary
        2. Competitor Profiles
        3. Strengths and Weaknesses Analysis
        4. Key Takeaways and Recommendations
  + **Exercise 3.3.2: Populating the Report with Perplexity AI Insights**
    - **Objective:** Fill in the report sections with data gathered from Perplexity AI searches.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Focus on key insights related to pricing, marketing, and customer service.
        2. Include direct quotes or summaries from Perplexity AI search results.
        3. Highlight actionable recommendations for the SMB.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Focus on technical information, certifications, and compliance standards.
        2. Include relevant data on competitor technologies and production capabilities.
        3. Highlight opportunities for innovation and differentiation.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Focus on clear and concise summaries of competitor information.
        2. Use visuals (if possible) to illustrate key findings.
        3. Present recommendations in a straightforward, actionable manner.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize the importance of clear and concise communication in reporting.
  + **SMBs:** Focus on actionable insights that can drive quick wins.
  + **Manufacturing:** Highlight the importance of technical accuracy and data validation.
  + **Non-Technical:** Encourage participants to focus on key takeaways and avoid overwhelming detail.

Tab 4

**Workshop 1: Mastering Perplexity AI for Business Insights and Research**

**Module 4: Knowledge Management and Collections (Duration: 1 hour 30 minutes)**

**Sub-Module 4.1: Introduction to Collections (Duration: 30 minutes)**

* **Purpose/Learning Objectives:**
  + Understand the purpose and benefits of using Perplexity AI Collections for knowledge management.
  + Learn how to create and organize collections within Perplexity AI.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed)
* **Execution Steps / Guided Exercises:**
  + **Exercise 4.1.1: The Value of Knowledge Management**
    - **Objective:** Discuss the importance of knowledge management in a business context and the challenges of not having a centralized system.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      1. **Steps:**
         1. Ask: "What happens when a key employee leaves your company? Where does their knowledge go?" (Discussion)
         2. Discuss the cost of lost knowledge, repeated research, and inconsistent information.
         3. Explain that Collections can be a simple, free way to build a company knowledge base.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      1. **Steps:**
         1. Discuss the critical need for organized information in manufacturing (e.g., SOPs, regulations, troubleshooting guides).
         2. Highlight the risk of outdated information and the need for version control.
         3. Explain how Collections can help manage manufacturing-specific knowledge.
    - **Option 3: Non-Technical Business Users**
      1. **Steps:**
         1. Ask: "Do you ever struggle to find information you researched before?" (Discussion)
         2. Discuss the frustration of scattered notes and bookmarks.
         3. Explain that Collections provide a central place to organize research.
  + **Exercise 4.1.2: Creating Your First Collection**
    - **Objective:** Learn how to create a new Collection in Perplexity AI and give it a descriptive name.
    - **All Options:**
      1. Guide participants to the "Collections" section of Perplexity AI.
      2. Click the "Create New Collection" (or similar) button.
      3. Prompt them to choose a name relevant to a specific business topic or project (e.g., "Marketing Best Practices," "Troubleshooting CNC Machines," "Customer Onboarding Process").
      4. Discuss the importance of clear and descriptive names for easy organization.
  + **Exercise 4.1.3: Organizing Collections with Folders (Optional) or Tags**
    - **Objective:** Explore organizational strategies within Collections using folders or tags (if available).
    - **All Options (adapt based on Perplexity AI's feature availability):**
      1. Explain the concept of folders or tags for categorizing items within a Collection (if the feature exists).
      2. Demonstrate how to create folders (e.g., "Content Marketing," "Email Marketing" within "Marketing Best Practices").
      3. Discuss how tags can be used to further refine organization (e.g., "Beginner," "Advanced," "Free Tools").
      4. Encourage participants to experiment with different organizational methods.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize that Collections are a personal knowledge base and can be customized.
  + **SMBs:** Focus on simple, practical organizational strategies.
  + **Manufacturing:** Highlight the importance of structured knowledge for compliance and efficiency.
  + **Non-Technical:** Make the process as straightforward as possible, avoiding jargon.

**Sub-Module 4.2: Adding Content to Collections (Duration: 30 minutes)**

* **Purpose/Learning Objectives:**
  + Learn how to save Perplexity AI search results, web pages, and notes to Collections.
  + Develop strategies for adding context and annotations to saved content.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 4.2.1: Saving Search Results to a Collection**
    - **Objective:** Practice saving search results from Perplexity AI to the appropriate Collection.
    - **All Options:**
      1. Conduct a Perplexity AI search related to the Collection topic (e.g., "email marketing tips").
      2. Identify a relevant search result.
      3. Locate the "Save to Collection" (or similar) button for the result.
      4. Select the appropriate Collection from the list.
      5. Discuss the importance of saving only the most relevant and high-quality results.
  + **Exercise 4.2.2: Saving Web Pages to a Collection**
    - **Objective:** Learn how to save external web pages directly to Perplexity AI Collections (if the feature is available, otherwise adapt).
    - **All Options (adapt based on Perplexity AI's feature availability):**
      1. If Perplexity AI allows direct web page saving, demonstrate the process (e.g., using a browser extension or bookmarklet).
      2. If not, discuss workarounds:
         * Saving the Perplexity AI search that led to the webpage.
         * Copying and pasting key information from the webpage into a note within the Collection.
         * Using a third-party bookmarking tool that integrates with Perplexity AI (if any).
  + **Exercise 4.2.3: Adding Notes and Annotations**
    - **Objective:** Learn how to add notes and annotations to saved items within a Collection for context and future reference.
    - **All Options:**
      1. Open a saved item within a Collection.
      2. Locate the note/annotation feature (if available, otherwise demonstrate creating a separate note within the Collection).
      3. Add a note summarizing the key takeaway from the saved item or its relevance to the business.
      4. Encourage participants to add personal insights and actionable steps.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize that Collections should be more than just a list of links; annotations are crucial for knowledge retention.
  + **SMBs:** Focus on creating Collections for immediate business needs (e.g., marketing, customer service).
  + **Manufacturing:** Highlight the value of documenting procedures and troubleshooting steps.
  + **Non-Technical:** Keep the process straightforward and emphasize clear, concise notes.

**Sub-Module 4.3: Sharing and Collaboration (Duration: 30 minutes)**

* **Purpose/Learning Objectives:**
  + Understand how to share Collections with colleagues and teams.
  + Explore collaborative features within Collections (if available) and discuss their benefits.
  + Develop strategies for building a shared company knowledge base using Collections.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 4.3.1: Sharing a Collection**
    - **Objective:** Learn how to share a Collection with other users (if the feature is available).
    - **All Options (adapt based on Perplexity AI's feature availability):**
      * If sharing is available:
        1. Demonstrate the sharing process (e.g., generating a shareable link or inviting collaborators).
        2. Discuss different permission levels (e.g., view-only, edit access).
      * If sharing is NOT directly available:
        1. Discuss alternative sharing methods:

Creating a shared document summarizing key insights from the Collection.

Presenting the Collection’s findings in a team meeting.

* + **Exercise 4.3.2: Collaborative Features (If Available)**
    - **Objective:** Explore collaborative features within Collections (e.g., commenting, shared editing) if available in Perplexity AI.
    - **All Options (If applicable):**
      * If collaborative features exist, demonstrate how to use them (e.g., adding comments to specific items, co-editing notes).
      * Discuss how these features enhance team learning and knowledge sharing.
  + **Exercise 4.3.3: Building a Company Knowledge Base**
    - **Objective:** Brainstorm how Collections can be used to build a central knowledge base for the business.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      * **Steps:**
        1. Identify key knowledge areas for the business (e.g., customer service FAQs, marketing templates, vendor contact information).
        2. Discuss how to create Collections for each area and assign ownership to specific team members.
        3. Emphasize the importance of regular updates and maintenance.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      * **Steps:**
        1. Focus on knowledge areas critical to manufacturing operations (e.g., SOPs, troubleshooting guides, equipment manuals).
        2. Discuss using Collections to manage version control and ensure access to the latest information.
        3. Highlight the importance of training employees on how to use the knowledge base.
    - **Option 3: Non-Technical Business Users**
      * **Steps:**
        1. Focus on creating Collections for common business tasks (e.g., writing emails, preparing presentations, conducting research).
        2. Discuss the benefits of sharing knowledge across the team to improve efficiency.
        3. Encourage users to contribute their own insights and expertise.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize that a successful knowledge base requires ongoing effort and participation.
  + **SMBs:** Focus on practical, low-effort strategies for building a shared knowledge resource.
  + **Manufacturing:** Highlight the importance of accuracy, version control, and accessibility.
  + **Non-Technical:** Reinforce the value of sharing knowledge to empower all team members.

Tab 5

**Workshop 1: Mastering Perplexity AI for Business Insights and Research**

**Module 5: Perplexity AI for Content Creation and Summarization (Duration: 1 hour)**

This module will focus on utilizing Perplexity AI for assisting with content creation and summarizing existing content, recognizing both the potential benefits and the limitations of AI in these areas.

**Sub-Module 5.1: Generating Content Outlines (Duration: 25 minutes)**

* **Purpose/Learning Objectives:**
  + Learn how to use Perplexity AI to generate content outlines for reports, presentations, articles, or other business documents.
  + Understand the benefits of using AI for outlining, such as brainstorming and structuring ideas.
  + Recognize the importance of human review and editing of AI-generated outlines.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed)
* **Execution Steps / Guided Exercises:**
  + **Exercise 5.1.1: Requesting an Outline from Perplexity AI**
    - **Objective:** Learn how to prompt Perplexity AI to generate a content outline for a given topic.
    - **Option 1: Small to Medium-Sized Businesses (SMBs) with Limited Resources**
      1. **Steps:**
         * Choose a common SMB content need (e.g., "outline for a blog post on social media marketing for small businesses").
         * Phrase the prompt clearly: "Create a blog post outline about social media marketing for small businesses."
         * Emphasize the importance of clear and specific prompts for better results.
    - **Option 2: Manufacturing Sector (Specific Industry Focus)**
      1. **Steps:**
         * Choose a manufacturing-related topic (e.g., "outline for a report on the benefits of lean manufacturing").
         * Craft a prompt using industry-specific terminology: "Generate a report outline detailing the benefits of lean manufacturing implementation."
         * Highlight the need for factual accuracy and technical detail.
    - **Option 3: Non-Technical Business Users**
      1. **Steps:**
         * Select a general business topic (e.g., "outline for a presentation on customer service").
         * Use a simple prompt: "Create a presentation outline about how to improve customer service."
         * Stress the ease of use and the ability to get a quick starting point for content creation.
  + **Exercise 5.1.2: Evaluating and Refining the Outline**
    - **Objective:** Assess the quality of the AI-generated outline and identify areas for improvement.
    - **All Options:**
      1. Review the outline generated by Perplexity AI.
      2. Discuss:
         * Are the main sections logical and relevant?
         * Are there any missing key topics?
         * Does the flow of the outline make sense?
      3. Encourage participants to add, remove, or rearrange sections as needed.
      4. Emphasize that the AI-generated outline is a starting point, not a finished product.
  + **Exercise 5.1.3: Adding Detail to the Outline (Optional)**
    - **Objective:** Practice adding subtopics and specific points to the outline.
    - **All Options:**
      1. Choose one section of the outline.
      2. Use Perplexity AI (or traditional research) to identify potential subtopics.
      3. Add 2-3 subtopics to the outline.
      4. Encourage participants to think about the key information they would include in each subtopic.
* **Trainer Notes / Teaching Notes:**
  + **General:** Stress that AI-generated outlines are valuable for brainstorming and structuring, but human input is crucial.
  + **SMBs:** Highlight how outlines can save time on content creation for marketing materials.
  + **Manufacturing:** Emphasize the importance of accuracy and technical expertise in content.
  + **Non-Technical:** Focus on using outlines to make content creation less daunting.

**Sub-Module 5.2: Summarizing Documents and Articles (Duration: 25 minutes)**

* **Purpose/Learning Objectives:**
  + Learn how to use Perplexity AI to summarize documents, articles, and other text-based content.
  + Understand the benefits of using AI for summarization, such as time savings and quick overviews.
  + Recognize the limitations of AI summarization and the need for human review to ensure accuracy and completeness.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Exercise 5.2.1: Summarizing a Short Article**
    - **Objective:** Use Perplexity AI to generate a summary of a short article or blog post.
    - **All Options:**
      1. Find a relevant article or blog post online (e.g., an article on business trends, a manufacturing case study, a customer service tip).
      2. Copy the URL or text of the article into Perplexity AI.
      3. Prompt Perplexity AI to summarize the article (e.g., "Summarize this article," "Give me the key takeaways from this article").
      4. Review the generated summary.
  + **Exercise 5.2.2: Evaluating the Summary**
    - **Objective:** Assess the accuracy and completeness of the AI-generated summary.
    - **All Options:**
      1. Compare the summary to the original article.
      2. Discuss:
         * Did the summary capture the main points of the article?
         * Were any important details missed?
         * Was the summary factually accurate?
      3. Emphasize that AI summaries should always be reviewed for accuracy and completeness.
  + **Exercise 5.2.3: Refining the Summary (Optional)**
    - **Objective:** Practice editing and refining an AI-generated summary to improve its clarity and accuracy.
    - **All Options:**
      1. Identify areas where the summary could be improved.
      2. Rewrite or add sentences to enhance clarity or include missing details.
      3. Discuss how human editing can ensure a high-quality summary.
* **Trainer Notes / Teaching Notes:**
  + **General:** Highlight the time-saving benefits of AI summarization but emphasize the need for human review.
  + **SMBs:** Focus on using summaries to stay informed about industry trends and competitor activities.
  + **Manufacturing:** Emphasize the importance of accuracy and technical detail in summaries.
  + **Non-Technical:** Stress the ability to get quick overviews of complex topics.

**Sub-Module 5.3: Best Practices and Ethical Considerations (Duration: 10 minutes)**

* **Purpose/Learning Objectives:**
  + Understand best practices for using Perplexity AI for content creation and summarization.
  + Identify ethical considerations related to AI-generated content, such as plagiarism and transparency.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout
* **Execution Steps / Guided Exercises:**
  + **Discussion:**
    - **All Options:**
      1. Discuss best practices:
         * Use clear and specific prompts.
         * Review and edit AI-generated content carefully.
         * Fact-check all information.
      2. Discuss ethical considerations:
         * Avoid plagiarism by properly citing sources.
         * Be transparent about using AI in content creation.
         * Use AI as a tool to assist, not replace, human creativity and expertise.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize the responsible and ethical use of AI in content creation.
  + **SMBs:** Focus on using AI to enhance, not replace, human effort.
  + **Manufacturing:** Highlight the importance of accuracy and compliance in content.
  + **Non-Technical:** Stress the need for transparency and ethical content practices.

Tab 6

**Workshop 1: Mastering Perplexity AI for Business Insights and Research**

**Module 6: Troubleshooting and Best Practices (Duration: 30 minutes)**

This module is designed to be more interactive and less exercise-driven, focusing on discussion and shared knowledge.

**Sub-Module 6.1: Common Issues and Troubleshooting (Duration: 15 minutes)**

* **Purpose/Learning Objectives:**
  + Identify common issues encountered when using Perplexity AI.
  + Develop troubleshooting strategies for resolving these issues.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed) - including a troubleshooting section
* **Execution Steps / Guided Exercises:**
  + **Discussion:**
    - **All Options:**
      * Facilitate a group discussion by asking:
        + "What challenges have you encountered while using Perplexity AI today?"
        + "What are some situations where Perplexity AI might provide inaccurate or incomplete information?"
        + "What can you do if Perplexity AI gives a vague or unhelpful answer?"
      * Guide the discussion towards common issues, such as:
        + **Inaccurate information:** Emphasize the need for source verification.
        + **Biased results:** Discuss the potential for AI to reflect biases in its training data.
        + **Vague or incomplete answers:** Suggest refining the prompt or using Co-Pilot.
        + **Technical difficulties:** Mention common browser issues and solutions.
  + **Troubleshooting Strategies (Presented as a list):**
    - **All Options (Displayed on a slide or in the handout):**
      * **Refine your prompt:** Be more specific and use keywords.
      * **Use Co-Pilot:** Let Perplexity AI guide your search.
      * **Check the sources:** Verify the information from cited sources.
      * **Try different search operators:** Narrow down your results.
      * **Restart your browser:** Clear cache and cookies if necessary.
      * **Consult the Perplexity AI help center:** Look for FAQs and support articles.
* **Trainer Notes / Teaching Notes:**
  + **General:** Create a safe space for participants to share their challenges.
  + **SMBs:** Focus on quick and practical troubleshooting steps.
  + **Manufacturing:** Emphasize the importance of accuracy and reliability in technical information.
  + **Non-Technical:** Provide simple, non-technical solutions.

**Sub-Module 6.2: Best Practices for Effective Use (Duration: 10 minutes)**

* **Purpose/Learning Objectives:**
  + Review best practices for using Perplexity AI for research and information gathering.
  + Reinforce the skills and techniques learned throughout the workshop.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed) - including a best practices checklist
* **Execution Steps / Guided Exercises:**
  + **Best Practices Checklist (Presented as a list):**
    - **All Options (Displayed on a slide or in the handout):**
      1. **Start with a clear question:** Define your research goal.
      2. **Use specific keywords and phrases:** Get targeted results.
      3. **Leverage search operators:** Refine your search with precision.
      4. **Engage with Co-Pilot:** Explore topics in depth.
      5. **Evaluate the sources:** Check for credibility and bias.
      6. **Summarize and synthesize:** Combine information from multiple sources.
      7. **Organize your research:** Use Collections to manage knowledge.
      8. **Cite your sources:** Avoid plagiarism.
      9. **Stay curious and keep learning:** Explore new features and techniques.
  + **Quick Review:**
    - **All Options:**
      1. Briefly review the key concepts and skills covered in the workshop.
      2. Highlight the most valuable takeaways for each customer profile.
* **Trainer Notes / Teaching Notes:**
  + **General:** Reinforce the importance of consistent practice and ongoing learning.
  + **SMBs:** Focus on actionable strategies for improving business outcomes.
  + **Manufacturing:** Emphasize the use of Perplexity AI for technical problem-solving and innovation.
  + **Non-Technical:** Encourage continued exploration and experimentation with the tool.

**Sub-Module 6.3: Ethical Considerations and Responsible Use (Duration: 5 minutes)**

* **Purpose/Learning Objectives:**
  + Reinforce ethical considerations related to using AI tools.
  + Promote responsible use of Perplexity AI in a business context.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed)
* **Execution Steps / Guided Exercises:**
  + **Discussion:**
    - **All Options:**
      1. Reiterate the importance of:
         * **Citing sources:** Avoid plagiarism and give credit where it's due.
         * **Fact-checking information:** Don't blindly trust AI-generated content.
         * **Being transparent about AI use:** Disclose when AI has been used in content creation.
         * **Respecting copyright:** Don't use AI to infringe on intellectual property.
      2. Encourage participants to think critically about the information they find and use online.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize that ethical considerations are paramount when using AI tools.
  + **SMBs:** Focus on building a reputation for honesty and integrity.
  + **Manufacturing:** Highlight the importance of compliance and responsible use of technology.
  + **Non-Technical:** Make ethical considerations easy to understand and apply.

Tab 7

Tab 8

Module 6

**Workshop 1: Mastering Perplexity AI for Business Insights and Research**

**Module 6: Troubleshooting and Best Practices (Duration: 30 minutes)**

This module is designed to be more interactive and less exercise-driven, focusing on discussion and shared knowledge.

**Sub-Module 6.1: Common Issues and Troubleshooting (Duration: 15 minutes)**

* **Purpose/Learning Objectives:**
  + Identify common issues encountered when using Perplexity AI.
  + Develop troubleshooting strategies for resolving these issues.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed) - including a troubleshooting section
* **Execution Steps / Guided Exercises:**
  + **Discussion:**
    - **All Options:**
      * Facilitate a group discussion by asking:
        + "What challenges have you encountered while using Perplexity AI today?"
        + "What are some situations where Perplexity AI might provide inaccurate or incomplete information?"
        + "What can you do if Perplexity AI gives a vague or unhelpful answer?"
      * Guide the discussion towards common issues, such as:
        + **Inaccurate information:** Emphasize the need for source verification.
        + **Biased results:** Discuss the potential for AI to reflect biases in its training data.
        + **Vague or incomplete answers:** Suggest refining the prompt or using Co-Pilot.
        + **Technical difficulties:** Mention common browser issues and solutions.
  + **Troubleshooting Strategies (Presented as a list):**
    - **All Options (Displayed on a slide or in the handout):**
      * **Refine your prompt:** Be more specific and use keywords.
      * **Use Co-Pilot:** Let Perplexity AI guide your search.
      * **Check the sources:** Verify the information from cited sources.
      * **Try different search operators:** Narrow down your results.
      * **Restart your browser:** Clear cache and cookies if necessary.
      * **Consult the Perplexity AI help center:** Look for FAQs and support articles.
* **Trainer Notes / Teaching Notes:**
  + **General:** Create a safe space for participants to share their challenges.
  + **SMBs:** Focus on quick and practical troubleshooting steps.
  + **Manufacturing:** Emphasize the importance of accuracy and reliability in technical information.
  + **Non-Technical:** Provide simple, non-technical solutions.

**Sub-Module 6.2: Best Practices for Effective Use (Duration: 10 minutes)**

* **Purpose/Learning Objectives:**
  + Review best practices for using Perplexity AI for research and information gathering.
  + Reinforce the skills and techniques learned throughout the workshop.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed) - including a best practices checklist
* **Execution Steps / Guided Exercises:**
  + **Best Practices Checklist (Presented as a list):**
    - **All Options (Displayed on a slide or in the handout):**
      1. **Start with a clear question:** Define your research goal.
      2. **Use specific keywords and phrases:** Get targeted results.
      3. **Leverage search operators:** Refine your search with precision.
      4. **Engage with Co-Pilot:** Explore topics in depth.
      5. **Evaluate the sources:** Check for credibility and bias.
      6. **Summarize and synthesize:** Combine information from multiple sources.
      7. **Organize your research:** Use Collections to manage knowledge.
      8. **Cite your sources:** Avoid plagiarism.
      9. **Stay curious and keep learning:** Explore new features and techniques.
  + **Quick Review:**
    - **All Options:**
      1. Briefly review the key concepts and skills covered in the workshop.
      2. Highlight the most valuable takeaways for each customer profile.
* **Trainer Notes / Teaching Notes:**
  + **General:** Reinforce the importance of consistent practice and ongoing learning.
  + **SMBs:** Focus on actionable strategies for improving business outcomes.
  + **Manufacturing:** Emphasize the use of Perplexity AI for technical problem-solving and innovation.
  + **Non-Technical:** Encourage continued exploration and experimentation with the tool.

**Sub-Module 6.3: Ethical Considerations and Responsible Use (Duration: 5 minutes)**

* **Purpose/Learning Objectives:**
  + Reinforce ethical considerations related to using AI tools.
  + Promote responsible use of Perplexity AI in a business context.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account
  + Workshop Handout (digital or printed)
* **Execution Steps / Guided Exercises:**
  + **Discussion:**
    - **All Options:**
      1. Reiterate the importance of:
         * **Citing sources:** Avoid plagiarism and give credit where it's due.
         * **Fact-checking information:** Don't blindly trust AI-generated content.
         * **Being transparent about AI use:** Disclose when AI has been used in content creation.
         * **Respecting copyright:** Don't use AI to infringe on intellectual property.
      2. Encourage participants to think critically about the information they find and use online.
* **Trainer Notes / Teaching Notes:**
  + **General:** Emphasize that ethical considerations are paramount when using AI tools.
  + **SMBs:** Focus on building a reputation for honesty and integrity.
  + **Manufacturing:** Highlight the importance of compliance and responsible use of technology.
  + **Non-Technical:** Make ethical considerations easy to understand and

Tab 10

**Module 4: Introduction to Server-Based AI Solutions (Duration: 1 hour 30 minutes)**

**(Level 1: Foundations - Continued)**

Okay, let's proceed with outlining the next module in Workshop 6. We've just completed a detailed breakdown of Module 3 across all levels, so let's move on to **Module 4: Introduction to Server-Based AI Solutions.**

Remember, we are designing this workshop with three levels:

* **Level 1: Foundations (Beginner-Friendly)**
* **Level 2: Implementation (Intermediate)**
* **Level 3: Integration & Advanced AI (Advanced)**

Here's the breakdown for Module 4 across these three levels:

**Module 4: Introduction to Server-Based AI Solutions (Duration: 1 hour 30 minutes)**

* \*\*Purpose/Learning Objectives: *(Same overarching objectives for all levels, but the depth and focus will differ)*
  + Understand the concept of server-based AI solutions and their role in AI deployment.
  + Explore the benefits of hosting AI models and knowledge bases on a dedicated server (scalability, security, control).
  + Learn the basics of deploying and managing server-based AI solutions.

**Level 1: Foundations (Beginner-Friendly)**

* **Focus:** High-level overview of server-based AI, its advantages, and common use cases. Analogies and simplified explanations will be used to convey the core concepts.
* **Learning Objectives:**
  + Define what a server is in simple terms.
  + Explain why AI applications and knowledge bases often need to be hosted on servers.
  + Identify the key benefits of server-based AI solutions (e.g., accessibility, reliability).
  + Recognize common examples of server-based AI in everyday applications.
* **Materials Needed:**
  + Laptop with internet access
  + Workshop Handout (Level 1 version) - including a glossary of key terms
* **Sub-Modules & Execution Steps:**
  + **Sub-Module 4.1: What is a Server? (Duration: 30 minutes - Level 1)**
    - **Execution Steps:**
      * **Exercise 4.1.1: The Analogy Approach:**
        + **Objective:** Understand the concept of a server using everyday analogies.
        + **Steps:**

Start with a discussion: "Think about a website like Google or Amazon. Where do you think all the information and software that makes those websites work are stored?"

Introduce the analogy: "A server is like a powerful, always-on computer that stores information and provides services to other computers and devices."

Use examples: "Think of it like a library that's open 24/7, or a restaurant kitchen that's constantly preparing meals."

Avoid technical jargon: "Don't worry about the technical details for now; just understand that a server is a central place where things are stored and processed."

* + - * **Exercise 4.1.2: Server-Based Applications We Use Every Day:**
        + **Objective:** Identify everyday applications that rely on servers.
        + **Steps:**

Brainstorm a list of online services (e.g., email, social media, online banking, streaming video).

Discuss: "Where do you think these services keep all your emails, photos, videos, and account information?"

Explain that all these services rely on servers to store and deliver their content.

* + - * **Trainer Notes:** Keep explanations simple and use relatable examples.
* **Sub-Module 4.2: Why Server-Based AI? (Duration: 30 minutes - Level 1)**
  + **Execution Steps:**
    - **Exercise 4.2.1: The Challenge of Scale:**
      * **Objective:** Understand why AI applications often require servers due to their complexity and resource needs.
      * **Steps:**
        + Analogy: "Imagine you have a small chatbot running on your laptop. It can handle a few conversations at a time. But what if hundreds or thousands of people want to chat with it at the same time?"
        + Explain: "AI applications, especially those using large language models, require a lot of processing power and memory. Servers provide these resources."
        + Discuss: "If a company has a knowledge base accessed by many employees, it needs to be stored on a server to handle all the requests and ensure everyone can get the information they need quickly."
    - **Exercise 4.2.2: Key Benefits of Server-Based AI (Simplified):**
      * **Objective:** Identify the main advantages of using servers for AI solutions in non-technical terms.
      * **Steps:**
        + Present key benefits in simple language:

**Accessibility:** "Everyone can use the AI application or knowledge base from anywhere with an internet connection."

**Reliability:** "The AI system is always available and running smoothly."

**Performance:** "The AI system can handle many users and complex requests without slowing down."

**Security:** "Data is stored securely on the server and protected from unauthorized access."

* + - * + Use relatable examples for each benefit: "Like how you can access your email from your phone, computer, or tablet because it's stored on a server."
    - **Trainer Notes:** Avoid technical details about server configurations or infrastructure. Focus on the end-user benefits.
  + **Sub-Module 4.3: Common Examples of Server-Based AI (Duration: 30 minutes - Level 1)**
    - **Execution Steps:**
      * **Exercise 4.3.1: Identifying AI in Cloud Applications:**
        + **Objective:** Recognize how AI features in familiar cloud applications rely on server infrastructure.
        + **Steps:**

List common cloud-based applications that use AI: "Think about applications you use every day, like email spam filtering, translation tools, or voice assistants."

Discuss: "How do you think these applications are able to offer these AI features?"

Explain that these applications use server-based AI models to provide their functionality.

Provide examples: "For instance, when you use a translation tool, the translation happens on a server running powerful AI models."

* + - * **Exercise 4.3.2: The Knowledge Base Example:**
        + **Objective:** Reinforce the concept of server-based AI in the context of knowledge bases.
        + **Steps:**

Reiterate: "Just like those cloud applications, AI-powered knowledge bases also need to be hosted on servers."

Discuss: "What if a large company had employees all over the world needing to access the same AI-powered knowledge base? How would they ensure everyone can access it quickly and reliably?"

Explain: "Using a server allows the company to make the knowledge base available to everyone, no matter where they are."

* + - **Trainer Notes:** Keep the examples relevant and relatable to the participants' experiences.

This completes the outline for Module 4, Level 1. Now let's move on to **Level 2: Implementation** for the same module.

**Level 2: Implementation (Intermediate)**

* **Focus:** Basic server concepts, popular server platforms (e.g., cloud services, virtual machines), and the benefits of server-based deployment for knowledge bases.
* **Learning Objectives:**
  + Define key server concepts (e.g., operating systems, virtual machines, cloud services).
  + Describe the benefits of server-based deployment for AI applications and knowledge bases (scalability, security, control).
  + Compare different server platforms (e.g., cloud providers, on-premise servers).
  + Identify basic security considerations for server deployments.
* **Materials Needed:**
  + Laptop with internet access
  + Workshop Handout (Level 2 version) - including a glossary of key terms and links to relevant resources
* **Sub-Modules & Execution Steps:**
  + **Sub-Module 4.1: Key Server Concepts (Duration: 30 minutes - Level 2)**
    - **Execution Steps:**
      * **Exercise 4.1.1: Defining Server Terminology:**
        + **Objective:** Understand common server terms and concepts.
        + **Steps:**

Present key terms:

Operating System (OS)

Virtual Machine (VM)

Cloud Computing

On-Premise Server

Web Server

Provide brief explanations for each term (in the handout or on a slide).

Discussion: "Can anyone explain, in their own words, what an operating system does? What's the difference between a virtual machine and a physical server?"

Encourage participants to ask clarifying questions.

* + - * **Exercise 4.1.2: Comparing Server Environments:**
        + **Objective:** Understand the differences between on-premise servers and cloud services.
        + **Steps:**

Explain the concept of on-premise servers (physical servers located in a company's own data center).

Explain the concept of cloud computing (using servers and services provided by a third-party provider over the internet).

Compare the pros and cons of each approach:

On-Premise: Control, security, but higher upfront costs and maintenance responsibilities.

Cloud: Scalability, flexibility, lower upfront costs, but reliance on a third-party provider.

Trainer Note: Use a table or chart in the handout to visually compare the two approaches.

* + **Sub-Module 4.2: Benefits of Server-Based Deployment for AI (Duration: 30 minutes - Level 2)**
    - **Execution Steps:**
      * **Exercise 4.2.1: Scalability and Performance:**
        + **Objective:** Understand how servers enable AI applications to scale and handle large workloads.
        + **Steps:**

Discuss the limitations of running AI models on a single computer.

Explain how servers can be scaled up (adding more resources to a single server) or scaled out (distributing the workload across multiple servers) to handle increased demand.

Use examples: "Imagine a company that suddenly experiences a surge in traffic to its AI-powered chatbot. How can they ensure the chatbot continues to respond quickly and reliably?"

Trainer Note: Relate this to the chatbot example from previous modules.

* + - * **Exercise 4.2.2: Security and Control:**
        + **Objective:** Identify the security advantages of server-based deployments.
        + **Steps:**

Discuss the security risks of running AI applications on personal computers or unmanaged devices.

Explain how servers provide a more secure environment for storing data and running AI models.

Mention basic security measures: firewalls, access controls, encryption.

Emphasize that knowledge bases often contain sensitive information, so security is paramount.

* + **Sub-Module 4.3: Introduction to Server Platforms (Duration: 30 minutes - Level 2)**
    - **Execution Steps:**
      * **Exercise 4.3.1: Exploring Cloud Providers:**
        + **Objective:** Identify popular cloud providers and their key offerings.
        + **Steps:**

List major cloud providers: Amazon Web Services (AWS), Google Cloud Platform (GCP), Microsoft Azure.

Briefly describe the services offered by each provider (computing, storage, networking, AI/ML services).

Trainer Note: Provide links to the providers' websites in the handout.

* + - * **Exercise 4.3.2: On-Premise Server Options:**
        + **Objective:** Understand the options for setting up on-premise servers.
        + **Steps:**

Discuss the hardware requirements for on-premise servers.

Mention common server operating systems (e.g., Linux, Windows Server).

Explain the need for IT expertise and resources to manage on-premise servers.

* + - * **Trainer Note:** This section is a high-level overview. We are not diving into specific configurations or pricing.

This completes the outline for Module 4, Level 2. Let's proceed to **Level 3: Integration & Advanced AI** for the same module. This will be the most technical breakdown.

**Level 3: Integration & Advanced AI (Advanced)**

* **Focus:** In-depth server configuration, deployment options (e.g., cloud, on-premise), managing AI models on servers, and integrating with other systems.
* **Learning Objectives:**
  + Configure and manage server environments for AI deployments (using command-line tools and configuration files).
  + Deploy AI models using containerization technologies (e.g., Docker).
  + Implement security best practices for server-based AI solutions (firewalls, access control, encryption).
  + Integrate server-based AI applications with other systems using APIs and webhooks.
* **Materials Needed:**
  + Laptop with internet access
  + Access to a cloud platform account (AWS, GCP, or Azure) or a virtual machine environment
  + Docker installed
  + Command-line tools (e.g., SSH)
  + API keys for AI services (Perplexity AI, Gemini, etc.)
  + Workshop Handout (Level 3 version) - including detailed setup instructions and code samples
* **Sub-Modules & Execution Steps:**
  + **Sub-Module 4.1: Server Configuration and Management (Duration: 45 minutes - Level 3)**
    - **Execution Steps:**
      * **Exercise 4.1.1: Setting up a Virtual Machine:**
        + **Objective:** Provision a virtual machine on a cloud platform (e.g., AWS EC2, Google Compute Engine, Azure Virtual Machines) or in a local virtualization environment (e.g., VirtualBox).
        + **Steps:**

Guide participants through the steps of creating a VM on their chosen platform (using the platform's web console or command-line tools).

Specify the operating system (e.g., Ubuntu Server), instance size, and other configuration options.

Explain the importance of choosing appropriate resources for AI workloads.

Trainer Note: Provide detailed step-by-step instructions with screenshots in the handout.

* + - * **Exercise 4.1.2: Securely Accessing the Server:**
        + **Objective:** Connect to the VM using SSH and configure basic security settings.
        + **Steps:**

Explain the concept of SSH keys and how to generate them.

Guide participants through the process of adding their SSH key to the VM.

Show how to connect to the VM using SSH from the command line.

Discuss basic security measures like setting up a firewall (e.g., using ufw on Ubuntu).

Trainer Note: Emphasize the importance of secure access to servers.

* + **Sub-Module 4.2: Containerization with Docker (Duration: 45 minutes - Level 3)**
    - **Execution Steps:**
      * **Exercise 4.2.1: Creating a Dockerfile for an AI Application:**
        + **Objective:** Write a Dockerfile to containerize a simple AI application (e.g., a Python script that uses a language model).
        + **Steps:**

Provide a sample Python script (or have participants use one they've developed in a previous module).

Explain the purpose of a Dockerfile and its key components (base image, dependencies, commands).

Guide participants through the process of creating a Dockerfile for the AI application, specifying:

The base image (e.g., python:3.9).

The dependencies (using pip install).

The command to run the application.

Trainer Note: Provide a sample Dockerfile as a starting point.

* + - * **Exercise 4.2.2: Building and Running the Docker Container:**
        + **Objective:** Build a Docker image from the Dockerfile and run it in a container.
        + **Steps:**

Show how to build a Docker image using the docker build command.

Explain the concept of Docker images and containers.

Guide participants through the process of running the Docker image in a container using the docker run command.

Verify that the application is running correctly inside the container.

* + **Sub-Module 4.3: Deploying and Managing AI on Servers (Duration: 30 minutes - Level 3)**
    - **Execution Steps:**
      * **Exercise 4.3.1: Deploying a Docker Container to a Cloud Platform (High Level)**
        + **Objective:** Discuss the process of deploying Docker containers to a cloud platform (without doing a full deployment in this limited time).
        + **Steps:**

Briefly introduce cloud deployment options (e.g., AWS ECS, Google Cloud Run, Azure Container Instances).

Explain the general steps involved in deploying a Docker container:

Push the Docker image to a container registry (e.g., Docker Hub, AWS ECR, Google Container Registry, Azure Container Registry).

Configure the deployment settings on the cloud platform.

Monitor the deployed application.

Trainer Note: Provide links to the cloud platforms' documentation for more details.

* + - * **Exercise 4.3.2: Monitoring and Maintaining Server-Based AI (Discussion):**
        + **Objective:** Discuss key considerations for monitoring and maintaining AI applications running on servers.
        + **Steps:**

Discuss the importance of:

Monitoring system resource utilization (CPU, memory, disk space).

Logging application activity and errors.

Implementing alerting mechanisms for critical issues.

Regularly updating security patches and software components.

Outline a basic maintenance plan for a server-based AI application.

Module 3-5

**Module 3: Enhancing the Knowledge Base with AI (Duration: 1 hour 30 minutes)**

\*Purpose and Overall Learning Objectives: *(Same for all levels)*

* Explore how AI tools can enhance knowledge base functionality (e.g., search, summarization, content generation).
* Integrate AI tools with the chosen knowledge base platform (if possible).
* Learn how to use AI for knowledge discovery and gap analysis.

**Level 1: Foundations (Beginner-Friendly)** (Detailed in the previous response)

* **Focus:** Understanding AI-powered search and leveraging AI for content suggestions.
* **Key Tools:** Perplexity AI, Gemini (for prompting), knowledge base platform's native search.
* **No coding or technical integration required.**

**Level 2: Implementation (Intermediate)**

* **Focus:** Integrating AI for specific functionalities within a knowledge base, exploring different platform options that offer AI features or integrations, and practical implementation techniques.
* **Learning Objectives:**
  + Evaluate knowledge base platforms for built-in AI features or integration capabilities.
  + Implement AI-powered search within a knowledge base platform (using platform features or simple API integrations if possible).
  + Use AI for content summarization to create previews or executive summaries of articles.
  + Automate content creation workflows with AI (e.g., generating FAQs from support tickets).
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI account (potential API access if needed)
  + Gemini account (potential API access if needed)
  + Access to a Level 2 knowledge base platform (e.g., Notion, Wiki.js)
  + (Optional) API keys for chosen AI services (if integration is possible)
  + Workshop Handout (Level 2 version)

**Sub-Module 3.1: AI-Powered Search (Duration: 30 minutes - Level 2)**

* **Execution Steps / Guided Exercises:**
  + **Exercise 3.1.1: Evaluating AI Search Features in Different Platforms**
    - **Objective:** Compare the search capabilities of several knowledge base platforms, including any built-in AI features.
    - **Steps:**
      1. Explore the search functionality in platforms like Notion, Wiki.js, Confluence (if accessible), and others.
      2. Evaluate:
         * Search accuracy and relevance.
         * Support for natural language queries.
         * Ability to filter and refine results.
         * Presence of AI-powered features (e.g., semantic search, result summarization).
      3. Discuss the pros and cons of each platform's search capabilities.
      4. Trainer Note: This helps participants make informed platform choices based on their search needs.
  + **Exercise 3.1.2: Implementing Simple API Integration for Search (If Possible)**
    - **Objective:** (Optional - if platform and AI service allow) Integrate Perplexity AI or Gemini search using a basic API call within a chosen platform (e.g., using a scripting feature in Wiki.js).
    - **Steps:**
      1. (Prerequisite: Obtain API key for Perplexity AI or Gemini).
      2. Demonstrate a basic API call to Perplexity AI or Gemini's search endpoint.
      3. Guide participants through the steps of integrating this API call within their chosen platform (if the platform allows scripting or custom integrations).
      4. Trainer Note: This is an optional exercise as it requires some coding knowledge. It's an intro to API integration for those who are comfortable.
* **Trainer Notes / Teaching Notes:**
  + Emphasize the importance of API documentation and security when working with API integrations.

**Sub-Module 3.2: AI for Content Summarization (Duration: 30 minutes - Level 2)**

* **Execution Steps / Guided Exercises:**
  + **Exercise 3.2.1: Summarizing Existing Content with AI**
    - **Objective:** Use AI to generate summaries of articles or documents within their knowledge base.
    - **Steps:**
      1. Select an article in their knowledge base.
      2. Explore options for summarizing the article:
         * If the platform has a built-in summarization feature, use it.
         * Copy the article text into Perplexity AI or Gemini and ask for a summary.
         * If possible, explore using an API call for automated summarization.
      3. Evaluate the quality of the generated summary:
         * Is it accurate and complete?
         * Is it concise and easy to understand?
      4. Discuss how summaries can be used to create previews, table of contents, or executive summaries.
      5. Trainer Note: Participants start utilizing AI to enhance the user experience.
  + **Exercise 3.2.2: Automating FAQ Generation (Optional)**
    - **Objective:** (If the time allows) Explore using AI to generate FAQs from support tickets or chat logs.
    - **Steps:**
      1. Discuss the process of collecting common support questions.
      2. If applicable, demonstrate how to feed this data into AI and generate potential FAQs.
* **Trainer Notes / Teaching Notes:**
  + Highlight the efficiency gains from using AI for content summarization and automation.

**Sub-Module 3.3: Planning for Knowledge Base Enhancement (Duration: 30 minutes - Level 2)**

* **Execution Steps / Guided Exercises:**
  + **Exercise 3.3.1: Identifying Opportunities for AI Integration**
    - **Objective:** Brainstorm specific ways to integrate AI into their knowledge base workflows.
    - **Steps:**
      1. Review existing knowledge base processes (e.g., content creation, search, maintenance).
      2. Identify areas where AI could improve efficiency or user experience.
      3. List specific AI integration ideas.
      4. Trainer Note: This helps participants apply their learning to real-world scenarios.
  + **Exercise 3.3.2: Action Planning and Next Steps**
    - **Objective:** Create a plan for implementing the AI integrations they have identified.
    - **Steps:**
      1. Prioritize the AI integration ideas.
      2. Research the technical requirements and resources needed.
      3. Develop a timeline for implementation.
* **Trainer Notes / Teaching Notes:**
  + Emphasize the importance of incremental improvements and starting with small, manageable projects.

**Level 3: Integration & Advanced AI**

* **Focus:** Advanced AI integration techniques, server deployment and management, and custom solutions for AI-powered knowledge bases.
* **Learning Objectives:**
  + Integrate knowledge base platforms with AI services using APIs and webhooks.
  + Develop custom AI-powered features for knowledge bases (e.g., chatbots, semantic search, knowledge graph generation).
  + Deploy AI models on servers (e.g., using Docker, cloud platforms, or MCP servers).
  + Implement advanced NLP techniques for content analysis and knowledge discovery.
* **Materials Needed:**
  + Laptop with internet access
  + Perplexity AI API access
  + Gemini API access
  + Access to a Level 3 knowledge base platform (API support required)
  + Server environment (e.g., cloud platform, Docker)
  + Python and relevant libraries (e.g., Langchain, LlamaIndex)
  + Workshop Handout (Level 3 version)

**Sub-Module 3.1: Advanced AI Integration (Duration: 30 minutes - Level 3)**

* **Execution Steps / Guided Exercises:**
  + **Exercise 3.1.1: Building a Semantic Search Interface**
    - **Objective:** Implement a semantic search feature using embedding models and vector databases within their knowledge base (using Langchain or LlamaIndex).
    - **Steps:**
      1. Select an embedding model (e.g., OpenAI Embeddings, Hugging Face embeddings).
      2. Explore platforms that allow vector storage (Pinecone, Weaviate, etc)
      3. Use the chosen model to generate embeddings for all articles in the knowledge base.
      4. Store these embeddings in a vector database.
      5. Implement a search function that uses the same embedding model to generate a query embedding and then searches the vector database for similar embeddings.
      6. Display the search results ranked by similarity.
      7. Trainer Note: This exercise dives into advanced NLP and custom search implementations.
  + **Exercise 3.1.2: Integrating AI Service API for Content Enrichment**
    - **Objective:** Use a Perplexity AI or Gemini API call to automatically extract keywords, topics, or summaries from new articles added to the knowledge base.
    - **Steps:**
      1. Set up a webhook or API trigger in their knowledge base platform to fire when a new article is created.
      2. Write a Python script (or equivalent) that receives the article content, sends it to the Perplexity AI or Gemini API, and stores the returned keywords, topics, or summaries as metadata for the article.
      3. Trainer Note: This covers how to use APIs for real-time content enrichment.
* **Trainer Notes / Teaching Notes:**
  + Emphasize the importance of API documentation, error handling, and rate limiting when working with external APIs.

**Sub-Module 3.2: Building Custom AI-Powered Features (Duration: 30 minutes - Level 3)**

* **Execution Steps / Guided Exercises:**
  + **Exercise 3.2.1: Building a Chatbot Interface for the Knowledge Base**
    - **Objective:** Create a basic chatbot that can answer questions based on the knowledge base content (using Langchain or LlamaIndex).
    - **Steps:**
      1. Use a framework like Langchain or LlamaIndex to load the knowledge base content into a vector index (if not already done).
      2. Set up a conversational chain that can:
         * Receive a user query.
         * Search the vector index for relevant documents.
         * Use a language model (e.g., Gemini) to generate an answer based on the retrieved documents.
      3. Implement a simple chat interface using a library like Streamlit or Gradio.
      4. Trainer Note: This implements the use of a chatbot as an intelligent assistant to surface knowledge
  + **Exercise 3.2.2: Knowledge Graph Generation (Optional - if time allows)**
    - **Objective:** (If time allows) Explore generating a knowledge graph from the knowledge base content using NLP techniques.
* **Trainer Notes / Teaching Notes:**
  + Highlight the modularity and scalability advantages of these solutions.

**Sub-Module 3.3: Server Deployment and Maintenance (Duration: 30 minutes - Level 3)**

* **Execution Steps / Guided Exercises:**
  + **Exercise 3.3.1: Deploying an AI Model on a Server**
    - **Objective:** Containerize the chatbot application (from Exercise 3.2.1) using Docker and deploy it to a cloud platform (e.g., AWS, Google Cloud, Azure) or a local server.
    - **Steps:**
      1. Create a Dockerfile for the chatbot application, specifying the necessary dependencies and runtime environment.
      2. Build a Docker image from the Dockerfile.
      3. Push the Docker image to a container registry (e.g., Docker Hub).
      4. Deploy the Docker container to a server platform of choice (cloud platform or local server).
  + **Exercise 3.3.2: Monitoring and Maintaining AI Applications**
    - **Objective:** Discuss best practices for monitoring the performance of AI models and applications and implementing maintenance procedures.
    - **Steps:**
      1. Discuss methods for monitoring:
         * API usage and performance.
         * Model accuracy and drift.
         * System resource utilization.
      2. Outline a plan for regular model retraining and application updates.
* **Trainer Notes / Teaching Notes:**
  + Emphasize the importance of DevOps practices for managing AI deployments.

Tab 12

Okay, let's finish outlining Workshop 6 by breaking down the remaining modules (Module 1, Module 2, and Module 5) across all three levels.

**Workshop 6: Building AI-Powered Knowledge Bases and Integrating AI Tools**

We have already outlined Module 3 and Module 4 in detail for all three levels. We will now cover the remaining modules.

**Module 1: Understanding Knowledge Base Concepts and Design (Duration: 1 hour)**

* **Purpose/Learning Objectives:** (Overall, remains the same)
  + Define what a knowledge base is and its key components.
  + Understand different knowledge base architectures (e.g., FAQs, wikis, expert systems, AI-powered).
  + Learn how to design an effective knowledge base for a specific business need.

**Level 1: Foundations (Beginner-Friendly)**

* **Focus:** Basic definitions, simple architectures (FAQs, wikis), and designing a knowledge base for common scenarios (e.g., customer service).
* **Learning Objectives:**
  + Define "knowledge base" in simple terms and explain its purpose.
  + Identify common types of knowledge bases (e.g., FAQs, how-to guides).
  + Plan the structure of a basic knowledge base for a specific purpose.
* **Materials Needed:**
  + Laptop with internet access
  + Workshop Handout (Level 1 version)
* **Sub-Modules & Execution Steps:**
  + **Sub-Module 1.1: What is a Knowledge Base? (Duration: 20 minutes - Level 1)**
    - **Exercise 1.1.1: Defining a Knowledge Base (Analogies):**
      * **Objective:** Understand the core concept of a knowledge base using simple analogies.
      * **Steps:**
        1. Ask: "Think about a time you had a question and quickly found the answer. Where did you look?"
        2. Introduce the analogy: "A knowledge base is like a well-organized library or a frequently asked questions (FAQ) document. It's a central place where you can find answers to common questions or information about a specific topic."
        3. Relate it to everyday life: "Think of the help section on a website or a cookbook with recipes."
    - **Exercise 1.1.2: Key Components of a Knowledge Base:**
      * **Objective:** Identify the key elements of a typical knowledge base.
      * **Steps:**
        1. Discuss common elements:

Articles/Pages

Categories/Topics

Search Functionality

FAQs

* + - * 1. Use examples: "In a cookbook (knowledge base), each recipe is an article, the sections (appetizers, main courses, desserts) are the categories, and the index helps you search for specific recipes."
  + **Sub-Module 1.2: Types of Knowledge Bases (Duration: 20 minutes - Level 1)**
    - **Exercise 1.2.1: Exploring Different Formats:**
      * **Objective:** Identify and differentiate between common knowledge base formats.
      * **Steps:**
        1. Introduce common types:

FAQs (Frequently Asked Questions)

How-To Guides/Articles

Glossaries

* + - * 1. Provide examples of each type (online or in the handout).
        2. Discuss: "What are the advantages and disadvantages of each type? When might you use an FAQ vs. a How-To guide?"
  + **Sub-Module 1.3: Designing a Basic Knowledge Base (Duration: 20 minutes - Level 1)**
    - **Exercise 1.3.1: Planning Your Knowledge Base Structure:**
      * **Objective:** Outline the structure of a knowledge base for a specific scenario.
      * **Steps:**
        1. Choose a simple scenario: "Let's say you want to create a knowledge base for a small business's customer service FAQs."
        2. Brainstorm key topics: "What are the main areas customers usually have questions about?"
        3. Develop a basic structure: "How would you organize these topics into categories?"
        4. Create a simple outline: Categories > Subcategories (if needed) > Potential Articles/FAQs.
        5. Trainer Note: Keep it simple and focus on the high-level structure.

**Level 2: Implementation (Intermediate)**

* **Focus:** More detailed architectures, knowledge base lifecycles, designing for specific business processes.
* **Learning Objectives:**
  + Compare different knowledge base architectures (e.g., wikis, hierarchical systems, faceted classification).
  + Define the key steps in the knowledge base lifecycle (creation, review, maintenance, archival).
  + Design a knowledge base structure to support a specific business process (e.g., onboarding new employees, troubleshooting technical issues).
* **Materials Needed:**
  + Laptop with internet access
  + Workshop Handout (Level 2 version)
* **Sub-Modules & Execution Steps:**
  + **Sub-Module 1.1: Knowledge Base Architectures (Duration: 25 minutes - Level 2)**
    - **Exercise 1.1.1: Exploring Different Architectures:**
      * **Objective:** Understand the characteristics of different knowledge base organizational methods.
      * **Steps:**
        1. Introduce architecture types:

Hierarchical (tree-like structure)

Wiki (collaborative, linked pages)

Faceted classification (multiple classification systems)

* + - * 1. Provide examples and visuals for each architecture.
        2. Discuss the advantages and disadvantages of each architecture based on different use cases.
    - **Exercise 1.1.2: Choosing the Right Architecture:**
      * **Objective:** Determine the best architectural style for a specific knowledge base need.
      * **Steps:**
        1. Present scenarios with example uses for knowledge bases (e.g., internal IT help desk, external product support).
        2. Discuss which architecture best suits each scenario and the reasoning behind it.
  + **Sub-Module 1.2: The Knowledge Base Lifecycle (Duration: 20 minutes - Level 2)**
    - **Exercise 1.2.1: Identifying Lifecycle Stages:**
      * **Objective:** Understand the different stages a knowledge base article undergoes.
      * **Steps:**
        1. Introduce the stages:

Creation

Review (accuracy, clarity)

Maintenance (updates, revisions)

Archival (when no longer relevant)

* + - * 1. Discuss what needs to happen in each stage.
    - **Exercise 1.2.2: Roles and Responsibilities:**
      * **Objective:** Determine who is responsible for knowledge content over time.
      * **Steps:**
        1. Brainstorm potential roles and responsibilities (content creators, reviewers, editors, subject matter experts).
        2. Discuss the need for content governance.
  + **Sub-Module 1.3: Designing for Business Processes (Duration: 15 minutes - Level 2)**
    - **Exercise 1.3.1: Aligning Structure to Processes:**
      * **Objective:** How do business processes determine knowledge based design decisions?
      * **Steps:**
        1. Outline processes that the knowledge base must support (e.g., onboarding, issue resolution, training).
        2. Design structural elements and content types to best match this workflow.

**Level 3: Integration & Advanced AI (Advanced)**

* **Focus:** Advanced knowledge representation, ontologies, knowledge graphs, AI-driven knowledge discovery.
* **Learning Objectives:**
  + Describe advanced knowledge representation techniques (ontologies, knowledge graphs).
  + Design a knowledge base schema for semantic search and AI-driven analysis.
  + Implement data governance and security policies for a knowledge base.
* **Materials Needed:**
  + Laptop with internet access
  + Workshop Handout (Level 3 version)
* **Sub-Modules & Execution Steps:**
  + **Sub-Module 1.1: Advanced Knowledge Representation (Duration: 25 minutes - Level 3)**
    - **Exercise 1.1.1: Ontologies and Knowledge Graphs Overview:**
      * **Objective:** Grasping advanced methods of organizing entities and their relationships.
      * **Steps:**
        1. Overview of ontologies: Define concepts, relationships, attributes
        2. Introduce knowledge graphs: How knowledge and relationships are visualized and queried.
    - **Exercise 1.1.2: Real-World Use Cases:**
      * **Objective:** See ontologies in action.
      * **Steps:**
        1. Discuss applications in various fields: biomedicine, e-commerce, industry 4.0.
  + **Sub-Module 1.2: Schema Design for AI (Duration: 20 minutes - Level 3)**
    - **Exercise 1.2.1: Semantic Search Requirements:**
      * **Objective:** Design the schema to maximize semantic search potential.
      * **Steps:**
        1. Identify entities and classes.
        2. Define properties and relationships.
    - **Exercise 1.2.2: Support AI Analysis:**
      * **Objective:** Laying the schema groundwork for AI data analysis.
      * **Steps:**
        1. Enable machine-readable relationships.
        2. Support for data integration & analytics tools.
  + **Sub-Module 1.3: Data Governance & Security (Duration: 15 minutes - Level 3)**
    - **Exercise 1.3.1: Governance Policies:**
      * **Objective:** Design a governance policy.
      * **Steps:**
        1. Set up access control rules.
        2. Establish guidelines for contribution and moderation.
    - **Exercise 1.3.2: Security Measures:**
      * **Objective:** Design steps for security.
      * **Steps:**
        1. Compliance with data protection laws.
        2. Encryption for sensitive data.

This completes the three-level breakdown for Module 1. Now, let's tackle Module 2.

**Module 2: Building a Basic Knowledge Base with Free/Low-Cost Tools (Duration: 1 hour 30 minutes)**

* **Purpose/Learning Objectives:** (Overall, remains the same)
  + Learn how to build a basic knowledge base using accessible tools (e.g., Google Docs/Sites, Notion, Wiki.js).
  + Understand the pros and cons of different platforms.
  + Populate the knowledge base with initial content.

**Level 1: Foundations (Beginner-Friendly)**

* **Focus:** Simple tools like Google Docs/Sites or a basic wiki.
* **Learning Objectives:**
  + Choose a beginner-friendly platform for building a knowledge base.
  + Set up a basic knowledge base structure with categories and articles.
  + Add initial content to the knowledge base (e.g., FAQs, articles).
* **Materials Needed:**
  + Laptop with internet access
  + Google account (for Google Docs/Sites)
  + Workshop Handout (Level 1 version)
* **Sub-Modules & Execution Steps:**
  + **Sub-Module 2.1: Platform Selection for Beginners (Duration: 25 minutes - Level 1)**
    - **Exercise 2.1.1: Exploring Google Sites:**
      * **Objective:** Get acquainted with Google Sites.
      * **Steps:**
        1. Introduce Google Sites: Explain the simplicity, free cost and collaborative nature.
        2. Guide through accessing Google Sites (from Google account).
        3. Brief overview of interface: basic elements.
    - **Exercise 2.1.2: Google Docs Option:**
      * **Objective:** Alternative to Google Sites.
      * **Steps:**
        1. If a site seems too complex, use Google Docs as a substitute.
        2. Structure with headers and links.
  + **Sub-Module 2.2: Setting Up the Basic Structure (Duration: 35 minutes - Level 1)**
    - **Exercise 2.2.1: Creating your Site:**
      * **Objective:** Get the skeleton site up.
      * **Steps:**
        1. Step through creating Google Site.
        2. Naming the site.
    - **Exercise 2.2.2: Site Navigation:**
      * **Objective:** Lay out the basic sections.
      * **Steps:**
        1. Add a first few pages based on the scenarios identified during Module 1.
        2. Layout main topics as top-level pages, subtopics as subpages.
  + **Sub-Module 2.3: Filling Initial Content (Duration: 30 minutes - Level 1)**
    - **Exercise 2.3.1: Initial Content Creation:**
      * **Objective:** Time to populate the site
      * **Steps:**
        1. Add content to the initial pages - copy/paste, simple formatting.

**Level 2: Implementation (Intermediate)**

* **Focus:** More robust platforms like Notion, Wiki.js, or dedicated knowledge base software (if affordable).
* **Learning Objectives:**
  + Evaluate the features of different knowledge base platforms (e.g., Wiki.js, Notion).
  + Set up a well-organized knowledge base structure, including categories, tags, and templates.
  + Add different types of content to the knowledge base (text, images, videos, files).
* **Materials Needed:**
  + Laptop with internet access
  + Accounts for Wiki.js and/or Notion
  + Workshop Handout (Level 2 version)
* **Sub-Modules & Execution Steps:**
  + **Sub-Module 2.1: Platform Selection (Duration: 20 minutes - Level 2)**
    - **Exercise 2.1.1: Wiki.js Overview:**
      * **Objective:** Get to know the platform Wiki.js.
      * **Steps:**
        1. Wiki.js introduction: Self-hosted, markdown based.
        2. Demo core features: organization and extensibility.
    - **Exercise 2.1.2: Notion as a KB:**
      * **Objective:** How to turn Notion into a KB
      * **Steps:**
        1. The blend of docs, databases, and wiki
        2. Hands on time.
  + **Sub-Module 2.2: Knowledge Base Organization (Duration: 40 minutes - Level 2)**
    - **Exercise 2.2.1: Categories and Hierarchies:**
      * **Objective:** Getting hierarchical layouts going in the platform of your choice.
      * **Steps:**
        1. Define major categories.
        2. Lay out category structure.
        3. Best practices in logical organization.
    - **Exercise 2.2.2: Dynamic Tagging & Properties:**
      * **Objective:** Maximize tags/properties in your choice of platform.
      * **Steps:**
        1. Setup of metadata and tags.
        2. Practical examples for various information.
  + **Sub-Module 2.3: Content Types (Duration: 30 minutes - Level 2)**
    - **Exercise 2.3.1: Formatting Variety:**
      * **Objective:** How different formats serve different purposes.
      * **Steps:**
        1. Text formatting for clarity
        2. Images to enhance understanding
        3. Videos for tutorials.
    - **Exercise 2.3.2: File Embeds and Attachment:**
      * **Objective:** Making external resources integrated

Tab 13