Chapter 8: `CommandBuffer` 📝

Rendering commands have to be Recorded in a CommandBuffer.
Only then the GPU can work on it 💁‍♀.
That's the idea, since decades ago, so yeah, xD.

0. `amVK` wrap 🌯

```
#include "amVK_Synchronization.hh"
#include "amVK_CommandPoolMAN.hh"

    // TwT
    REY_LOG("");
    #define amVK_S amVK_Sync
    #define CPCF CommandPoolCreateFlags
amVK_CommandPoolMAN*CPMAN = new amVK_CommandPoolMAN(D);
                    CPMAN->init_CMDPool_Graphics(amVK_S::CPCF::RecordBuffer_MoreThanOnce);
                    CPMAN->CreateCommandPool_Graphics(flags);
                    CPMAN->AllocateCommandBuffers1_Graphics(1);

amVK_CommandBufferPrimary *CB = new amVK_CommandBufferPrimary(CPMAN->BUFFs1.Graphics[0]);
```

1. `VkCommandPool`

🛠 `VkCommandPoolCreateInfo`

- 🏔 ***https://vkdoc.net/man/VkCommandPoolCreateInfo***
  - `.sType` ▨ `VK_STRUCTURE_TYPE_COMMAND_POOL_CREATE_INFO`
  - `.pNext` ▨ `NULL`
  - `.flags` □ `VkCommandPoolCreateFlagBits`
    - *https://vkdoc.net/man/VkCommandPoolCreateFlagBits* | *ivirtex-github*
      - □ `TRANSIENT`
      - □ `RESET_COMMAND_BUFFER` *:- Lets you call* `vkBeginCommandBuffer()` *on same* `CMDBUF` *more than once*
      - □ `PROTECTED`
    - ▨ `0` *:- Can't call* `vkBeginCommandBuffer()` *more than once on the same* `CMDBUF`

  - `.queueFamilyIndex`
    - ▨ *CommandPool =* `as per queueFamily`
    - *i am not sure if you can have multiple CommandPool on the same QueueFamily*

🎁 `vkCreateCommandPool()`

- 🏔 ***https://vkdoc.net/man/vkCreateCommandPool***
  - `.device` ▨ 💁‍♀
  - `.pCreateInfo` ▨ 💁‍♀
  - `.pAllocator` ▧ *ChapterZZZ*
  - `.pSemaphore` ↩ 📦

📜 REY_DOCs

- ***Copy Paste*** `amVK_FrameBuffer.hh` ***Current Implementation & Change it as needed***
  - *Trust me, this is the most fun way of doing this, xP*

⍰ `amVK` 🔗 *amVK_CommandPoolMAN.hh*

2. `VkCommandBuffer`

🛠 `VkCommandBufferAllocateInfo`

- *https://vkdoc.net/man/VkCommandBufferAllocateInfo*
    - `.sType` ▨ `VK_STRUCTURE_TYPE_COMMAND_BUFFER_ALLOCATE_INFO`
    - `.pNext` ▨ `NULL`
    - `.commandPool` ▨ 🧑‍💻
    - `.level` 🔀 `PRIMARY/SECONDARY` *[Toggle]*
    - `.commandBufferCount` ▨ 🧑‍💻

🎁 `vkAllocateCommandBuffers()`

- *https://vkdoc.net/man/vkAllocateCommandBuffers*
    - `.device`
    - `.pAllocateInfo` ▨ 🧑‍💻
    - `pCommandBuffers` ↩ 📦

⍰ `amVK` 🔗 *amVK_CommandPoolMAN.hh#L63*

- ***both Primary & Secondary commandBuffers are supported***
    - *But, as off* `01 May, 2025`
        - *amVK Users must use one of the* `amVK_CommandPoolCATs` *(Categories) e.g. Graphics/Compute* 🧑‍💻
- 🔗 *amVK_ Synchronization.hh*