

Q: What is Batch API in Drupal 10? Explain working with code.

A:

Batch API is used to process large operations in small steps to avoid timeout by executing operations

```
// Step 1: Define batch
$batch = [
  'title' => 'Processing items',
  'operations' => [
    ['my_module_batch_process', [1]],
    ['my_module_batch_process', [2]],
  ],
  'finished' => 'my_module_batch_finished',
];

batch_set($batch);

// Step 2: Operation callback
function my_module_batch_process($item, &$amp;context) {
  $context['results'][] = $item;
  $context['message'] = "Processing $item";
}

// Step 3: Finished callback
function my_module_batch_finished($success, $results, $operations) {
  if ($success) {
    \Drupal::messenger()->addMessage('Batch completed.');
```

Q: What is Queue API in Drupal 10? Explain working with code.

A:

Queue API is used to defer tasks and process them asynchronously via cron or workers.

```
// Step 1: Create queue and add item
$queue = \Drupal::queue('my_queue');
$queue->createItem(['id' => 1]);

// Step 2: Create Queue Worker Plugin
namespace Drupal\my_module\Plugin\QueueWorker;

use Drupal\Core\Queue\QueueWorkerBase;

/**
 * @QueueWorker(
 *   id = "my_queue",
 *   title = @Translation("My Queue Worker"),
 *   cron = {"time" = 60}
 * )
 */
class MyQueueWorker extends QueueWorkerBase {
  public function processItem($data) {
    \Drupal::logger('my_module')->notice('Processing ID: ' . $data['id']);
  }
}

// Queue runs automatically during cron execution.
```

Q: Difference between Batch and Queue in Drupal 10?

A:

Batch API processes tasks in user-triggered multi-step HTTP requests with progress UI, while Queue API