# Customer Service API Documentation

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status response |
| Register | POST | /api/customers/register | JSON with email, password, name | Success with customer data and token |
| Login | POST | /api/customers/login | JSON with email, password | Success with customer data and token |
| Logout | POST | /api/customers/logout | Bearer token | Success message |
| Verify Email | POST | /api/customers/verify-email | JSON with email, code | Success with token |
| Resend Verification | POST | /api/customers/resend-verification | JSON with email | Success message |
| Get Profile | GET | /api/customers/profile | Bearer token | Customer profile data |
| Update Profile | PUT | /api/customers/profile | Bearer token, profile data | Updated profile data |
| Change Password | PUT | /api/customers/password | Bearer token, old/new passwords | Success with new token |
| Check Email Exists | GET | /api/customers/{email}/exists | Email in URL | Boolean exists flag |
| Validate Token | POST | /api/customers/validate-token | JSON with token | Validation result with customer data |
| Get Customer Orders | GET | /api/customers/orders | Bearer token | Customer orders data |
| Get All Customers | GET | /api/customers/all | N/A | List of all customers |
| Admin Update Customer | PUT | /api/customers/{customer\_id}/update | Customer ID in URL, customer data | Updated customer data |
| Admin Delete Customer | DELETE | /api/customers/{customer\_id}/delete | Customer ID in URL | Success message |

# Cart Service API Documentation

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status with services information |
| Get Cart | GET | /api/cart | Authorization header with Bearer token | Complete cart with items, pricing, and promotions |
| Add Item to Cart | POST | /api/cart/items | Authorization header with Bearer token Body: { "product\_id": string, "quantity": number } | Updated cart with new item |
| Update Cart Item | PUT | /api/cart/items/{item\_id} | Authorization header with Bearer token Body: { "quantity": number } | Updated cart with modified item |
| Remove Cart Item | DELETE | /api/cart/items/{item\_id} | Authorization header with Bearer token | Updated cart with item removed |
| Clear Cart | DELETE | /api/cart/clear | Authorization header with Bearer token | Empty cart |
| Refresh Promotions | POST | /api/cart/refresh-promotions | Authorization header with Bearer token | Cart with updated promotion information |

**Email Service API Documentation**

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status with service information |
| Send Verification Email | POST | /send/verification | X-API-Key header Body: { "email": string, "code\_length": number (optional) } | Confirmation of sent verification email |
| Verify Code | POST | /verify/code | X-API-Key header Body: { "email": string, "code": string } | Verification result (verified: true/false) |
| Send Password Reset | POST | /send/password-reset | X-API-Key header Body: { "email": string, "code\_length": number (optional) } | Confirmation of sent password reset email |
| Send Welcome Email | POST | /send/welcome | X-API-Key header Body: { "email": string, "name": string } | Confirmation of sent welcome email |
| Send Notification | POST | /api/send/notification | X-API-Key header Body: { "email": string, "subject": string, "message": string } | Confirmation of sent notification email |
| Send Custom Email | POST | /send/custom | X-API-Key header Body: { "email": string, "subject": string, "text\_content": string, "html\_content": string } | Confirmation of sent custom email |
| Get Email Logs | GET | /emails/logs | X-API-Key header Query params: email, status, type, from, to (all optional) | List of email logs matching criteria |
| Get Email Stats | GET | /stats | X-API-Key header | Email sending statistics summary |

**Frontend Service API Documentation**

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status of all microservices |
| **Product Related APIs** | | | | |
| Get All Products | GET | /api/frontend/products | N/A | List of products with promotion data |
| Get Featured Products | GET | /api/frontend/featured-products | Query param: limit (optional) | List of featured products |
| Get Product Categories | GET | /api/frontend/categories | N/A | List of product categories |
| Get Product Details | GET | /api/frontend/product/{product\_id} | URL param: product\_id | Detailed product information with promotions |
| Get Related Products | GET | /api/frontend/related-products | Query params: category, product\_id (optional), limit (optional) | List of related products |
| Search Products | GET | /api/frontend/search | Query param: q (search query) | Search results with promotion data |
| Serve Product Image | GET | /api/storage/serve/{filepath} | URL param: filepath | Product image file |
| Generate Placeholder | GET | /api/placeholder/{width}/{height} | URL params: width, height Query param: text (optional) | SVG placeholder image |
| **Media Related APIs** | | | | |
| Get Featured Articles | GET | /api/frontend/featured-articles | Query param: limit (optional) | List of featured articles |
| Get Latest News | GET | /api/frontend/latest-news | Query param: limit (optional) | List of latest news articles |
| Serve Media File | GET | /api/media/serve/{filepath} | URL param: filepath | Media file |
| **Proxy Routes (passes requests to microservices)** | | | | |
| Customer API Proxy | ANY | /api/customers/\* | Varies by endpoint | Proxied response from Customer Service |
| Cart API Proxy | ANY | /api/cart/\* | Varies by endpoint | Proxied response from Cart Service |
| Payment Methods Proxy | ANY | /api/payment-methods/\* | Varies by endpoint | Proxied response from Payment Service |
| Addresses Proxy | ANY | /api/addresses/\* | Varies by endpoint | Proxied response from Payment Service |
| Checkout Proxy | POST | /api/checkout | Checkout request data | Proxied response from Payment Service |
| Orders Proxy | ANY | /api/orders/\* | Varies by endpoint | Proxied response from Order Service |
| Media Proxy | ANY | /api/media/\* | Varies by endpoint | Proxied response from Media Service |

**Media Service API Documentation**

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status of service and DB connection |
| **Article Related APIs** | | | | |
| Get All Articles | GET | /api/articles | Query params: type, status, limit, offset (all optional) | List of articles with pagination |
| Get Article | GET | /api/articles/{article\_id} | URL param: article\_id | Article details with images and tags |
| Create Article | POST | /api/articles | JSON body with article data | Created article details |
| Update Article | PUT | /api/articles/{article\_id} | URL param: article\_id JSON body with update data | Updated article details |
| Delete Article | DELETE | /api/articles/{article\_id} | URL param: article\_id | Success confirmation |
| Publish Article | PUT | /api/articles/{article\_id}/publish | URL param: article\_id | Published article details |
| Archive Article | PUT | /api/articles/{article\_id}/archive | URL param: article\_id | Archived article details |
| Search Articles | GET | /api/articles/search | Query params: q (required), limit, offset (optional) | Search results with pagination |
| Get Featured Articles | GET | /api/articles/featured | Query param: limit (optional) | List of featured articles |
| **Image Related APIs** | | | | |
| Get Article Images | GET | /api/articles/{article\_id}/images | URL param: article\_id | List of images for the article |
| Get Image | GET | /api/images/{image\_id} | URL param: image\_id | Image details |
| Upload Image | POST | /api/articles/{article\_id}/images/upload | URL param: article\_id Form data with file | Uploaded image details |
| Upload Multiple Images | POST | /api/articles/{article\_id}/images/upload/multiple | URL param: article\_id Form data with files[] | Uploaded images details |
| Serve Media File | GET | /api/media/serve/{filepath} | URL param: filepath | Media file |
| Add Image | POST | /api/images | JSON body with image data | Added image details |
| Update Image | PUT | /api/images/{image\_id} | URL param: image\_id JSON body with update data | Updated image details |
| Delete Image | DELETE | /api/images/{image\_id} | URL param: image\_id | Success confirmation |
| **Tag Related APIs** | | | | |
| Get All Tags | GET | /api/tags | N/A | List of all tags |
| Get Articles By Tag | GET | /api/tags/{tag\_slug}/articles | URL param: tag\_slug Query params: limit, offset (optional) | List of articles with the specified tag |
| Get Article Tags | GET | /api/articles/{article\_id}/tags | URL param: article\_id | List of tags for the article |

**Order Service API Documentation**

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status of service and dependencies |
| **Customer-Facing APIs** | | | | |
| Get Customer Orders | GET | /api/orders | Authorization header with Bearer token | List of all orders for the authenticated customer |
| Get Order Details | GET | /api/orders/{order\_id} | Authorization header with Bearer token URL param: order\_id | Detailed information about a specific order |
| Cancel Order | POST | /api/orders/{order\_id}/cancel | Authorization header with Bearer token URL param: order\_id Body: { "reason": string } | Confirmation of order cancellation |
| **Payment Service Integration** | | | | |
| Payment Webhook | POST | /api/orders/payment-webhook | JSON body with payment data | Confirmation of order creation |
| **Admin APIs** | | | | |
| Get All Orders | GET | /api/admin/orders | Query params: status, start\_date, end\_date, page, per\_page (all optional) | List of orders with pagination and filtering |
| Get Order Details (Admin) | GET | /api/admin/orders/{order\_id} | URL param: order\_id | Detailed information about a specific order |
| Update Order Status | PUT | /api/admin/orders/{order\_id}/status | URL param: order\_id Body: { "status": string, "notes": string (optional), "tracking\_number": string (optional), "carrier": string (optional) } | Confirmation of status update |
| Update Order Notes | PUT | /api/admin/orders/{order\_id}/notes | URL param: order\_id Body: { "notes": string } | Confirmation of notes update |
| Get Order Statistics | GET | /api/admin/orders/stats | Query params: start\_date, end\_date (optional) | Order statistics including status breakdown, trends, and totals |
| Generate Order Report | GET | /api/admin/orders/reports | Query params: type (summary/detailed), start\_date, end\_date, format (json/csv) | Order report in the specified format |
| **Search APIs** | | | | |
| Search Orders | GET | /api/orders/search | Query params: q (search term), status, date\_from, date\_to (all optional) | Orders matching the search criteria |

**Payment Service API Documentation**

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status of service and dependencies |
| **Payment Methods APIs** | | | | |
| Get All Payment Methods | GET | /api/payment-methods | Authorization header with Bearer token | List of payment methods for the authenticated customer |
| Get Payment Method | GET | /api/payment-methods/{payment\_method\_id} | Authorization header with Bearer token URL param: payment\_method\_id | Details of specific payment method |
| Add Payment Method | POST | /api/payment-methods | Authorization header with Bearer token Body: Payment method details including method\_type, card information | Confirmation with payment method ID |
| Update Payment Method | PUT | /api/payment-methods/{payment\_method\_id} | Authorization header with Bearer token URL param: payment\_method\_id Body: Updated payment method fields | Confirmation of update |
| Delete Payment Method | DELETE | /api/payment-methods/{payment\_method\_id} | Authorization header with Bearer token URL param: payment\_method\_id | Confirmation of deletion |
| Set Default Payment Method | PUT | /api/payment-methods/{payment\_method\_id}/set-default | Authorization header with Bearer token URL param: payment\_method\_id | Confirmation of default update |
| **Delivery Addresses APIs** | | | | |
| Get All Addresses | GET | /api/addresses | Authorization header with Bearer token | List of delivery addresses for the authenticated customer |
| Get Address | GET | /api/addresses/{address\_id} | Authorization header with Bearer token URL param: address\_id | Details of specific address |
| Add Address | POST | /api/addresses | Authorization header with Bearer token Body: Address details including name, address\_line1, city, etc. | Confirmation with address ID |
| Update Address | PUT | /api/addresses/{address\_id} | Authorization header with Bearer token URL param: address\_id Body: Updated address fields | Confirmation of update |
| Delete Address | DELETE | /api/addresses/{address\_id} | Authorization header with Bearer token URL param: address\_id | Confirmation of deletion |
| Set Default Address | PUT | /api/addresses/{address\_id}/set-default | Authorization header with Bearer token URL param: address\_id | Confirmation of default update |
| **Checkout API** | | | | |
| Process Checkout | POST | /api/checkout | Authorization header with Bearer token Body: { "payment\_method\_id": string, "address\_id": string } | Payment confirmation and order ID |

**Promotion Service API Documentation**

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status of service and database connections |
| **Product Access APIs** | | | | |
| Get All Products | GET | /api/products | N/A | List of all products from storage service |
| **Promotion Management APIs** | | | | |
| Get All Promotions | GET | /api/promotions | N/A | List of all promotions |
| Get Promotion | GET | /api/promotions/{promotion\_id} | URL param: promotion\_id | Details of a specific promotion with product info |
| Create Promotion | POST | /api/promotions | JSON body with promotion data: { "product\_id": string, "name": string, "discount\_type": string, "discount\_value": number, ... } | Created promotion details |
| Update Promotion | PUT | /api/promotions/{promotion\_id} | URL param: promotion\_id JSON body with updated fields | Updated promotion details |
| Delete Promotion | DELETE | /api/promotions/{promotion\_id} | URL param: promotion\_id | Confirmation of deletion |
| **Query APIs** | | | | |
| Get Product Promotions | GET | /api/products/{product\_id}/promotions | URL param: product\_id | List of promotions for a specific product |
| Get Active Promotions | GET | /api/promotions/active | N/A | List of currently active promotions |

**Storage Service API Documentation**

| **Function** | **Method** | **Endpoint** | **Input** | **Output** |
| --- | --- | --- | --- | --- |
| Health Check | GET | /api/health | N/A | JSON status of service and database connection |
| **Product Management APIs** | | | | |
| Get All Products | GET | /api/products | N/A | List of all products |
| Get Product | GET | /api/products/{product\_id} | URL param: product\_id | Details of a specific product with images |
| Create Product | POST | /api/products | JSON body with product data: { "name": string, "price": number, "description": string, "stock": number, ... } | Created product details |
| Update Product | PUT | /api/products/{product\_id} | URL param: product\_id JSON body with updated fields | Updated product details |
| Delete Product | DELETE | /api/products/{product\_id} | URL param: product\_id | Confirmation of deletion |
| Search Products | GET | /api/products/search | Query param: q (search query) | List of products matching search criteria |
| **Product Image APIs** | | | | |
| Get Product Images | GET | /api/products/{product\_id}/images | URL param: product\_id | List of images for a product |
| Upload Product Image | POST | /api/products/{product\_id}/images/upload | URL param: product\_id Form data: file, alt\_text (optional), is\_primary (optional), sort\_order (optional) | Uploaded image details |
| Upload Multiple Images | POST | /api/products/{product\_id}/images/upload/multiple | URL param: product\_id Form data: files[] (array of files) | Details of all uploaded images |
| Get Image | GET | /api/images/{image\_id} | URL param: image\_id | Details of a specific image |
| Update Image | PUT | /api/images/{image\_id} | URL param: image\_id JSON body with updated fields | Updated image details |
| Delete Image | DELETE | /api/images/{image\_id} | URL param: image\_id | Confirmation of deletion |
| Set Primary Image | PUT | /api/images/{image\_id}/set-primary | URL param: image\_id | Updated image details with primary flag set |
| Serve File | GET | /api/storage/serve/{filepath} | URL param: filepath | File content |
| **Category and Manufacturer APIs** | | | | |
| Get Products by Category | GET | /api/products/category/{category} | URL param: category | List of products in the category |
| Get Products by Manufacturer | GET | /api/products/manufacturer/{manufacturer} | URL param: manufacturer | List of products from the manufacturer |
| Get All Categories | GET | /api/categories | N/A | List of all unique product categories |
| Get All Manufacturers | GET | /api/manufacturers | N/A | List of all unique product manufacturers |
| **Debug API** | | | | |
| Debug Storage | GET | /api/storage/debug | Query param: product\_id (optional) | Information about storage directory contents |